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ACCOUNTS AND PAPERS;

1877.

FORTY-FIVE VOLUMES:—CONTENTS OF THE SEVENTEENTH VOLUME.

N.B.—*THE* Figures at the beginning of the line, correspond with the N° at the foot of each Paper; and the Figures at the end of the line, refer to the MS. Paging of the Volumes arranged for *The House of Commons*.

EAST INDIA—continued.

Famine in Western and Southern India:

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EAST INDIA.

PART I.

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COPY OF CORRESPONDENCE

BETWEEN

THE SECRETARY OF STATE FOR INDIA AND
THE GOVERNMENT OF INDIA,

ON THE SUBJECT OF

THE THREATENED FAMINE IN WESTERN
AND SOUTHERN INDIA.

Presented to both Houses of Parliament by Command of Her Majesty.



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	ENCLOSURES.		
1	Under Secretary to Government of India.	Jan. 22, 1876 -	<i>Telegram</i> , calling for full information from Madras Government as to sudden change in prospects.
1	Secretary to Government of Madras.	Jan. 24, 1876 -	In reply to telegram, forwards enclosures from,—
1	Collector of Bellary -	Oct. 26, 1875 -	Relief works to be undertaken should distress continue (with enclosures).
2	Ditto - - -	Nov. 10, 1875 -	Distress alleviated for present (with enclosure).
3	Ditto - - -	Dec. 14, 1875 -	Personal inspection of distressed districts.
3	Ditto Cuddapah -	Dec. 11, 1875 -	Season has been a bad one, but does not apprehend distress; pasture sufficient; prices rising; advocates more liberal treatment of wet wells.
4	Ditto South Arcot	Jan. 6, 1876 -	Prospects of harvest bad.
4	Ditto North Arcot	Jan. 10, 1876 -	Season disastrous. Fears remissions of revenue will be necessary.
5	Secretary to Government of India.	Feb. 5, 1876 -	Calls for statement of views of Government of Madras as to prospects of affected districts.
5	Secretary to Government of Madras.	July 4, 1876 -	In reply to preceding Letter:— <i>Bellary</i> . Prices not excessively high. Condition of labouring classes does not call for interference of State.— <i>Cuddapah</i> . Prices steady. Condition of labouring classes good. Remissions, Rs. 177,100.— <i>North Arcot</i> . Prospects on the whole not yet unfavourable. Estimated remissions, Rs. 150,000.— <i>South Arcot</i> . Drinking water scarce, and want of pasturage for cattle. Markets well supplied. Estimated remissions, Rs. 280,000. Nothing certain can yet be predicted. Every precaution being taken.
6	SECRETARY OF STATE	Oct. 5, 1876, No. 28.	REPLYING TO GOVERNMENT OF INDIA DESPATCH OF JULY 31, DESIRES TO BE INFORMED OF PROGRESS OF EVENTS.
7	GOVERNMENT OF INDIA	Oct. 19, 1876, No. 21.	REPORT SCARCITY IN CERTAIN PARTS OF THE BOMBAY PRESIDENCY. HAVE SANCTIONED LOCAL RELIEF WORKS BEING STARTED, BUT AVERSE TO BEING COMMITTED TO LARGE SCHEMES OF EXPENDITURE WHICH MAY INVOLVE OUTLAY FAR IN EXCESS OF REQUIREMENTS OF SCARCITY.
	ENCLOSURES.		
7	Acting Chief Secretary to Government of Bombay.	Sept. 13, 1876 -	Forwards papers relative to insufficient rain in Poona district. Feels confident Government of India will sanction necessary expenditure for relief operations if required.
8	Acting Second Assistant Collector, Poona.	Aug. 28, 1876 -	Condition of Bhimthadi and Indapur talukas, and consideration of measures to meet probable scarcity.
9	Acting Collector, Poona.	Sept. 4, 1876 -	<i>Memorandum</i> , enumerating works to be first commenced in Bhimthadi and Indapur.
10	Revenue Commissioner, Southern Division.	Sept. 6, 1876 -	<i>Memorandum</i> , reviewing the two preceding papers.
10	Officiating Secretary to Government of India.	Sept. 29, 1876 -	Government of India not prepared at present to bear necessary expenditure. Should scarcity be circumscribed, relief should properly be met by provincial funds. Should situation become graver, Government of India should be informed in time to form decision as to incidence of relief expenditure.
10	Governor, Bombay -	Oct. 3, 1876 -	<i>Telegram</i> , requesting instant answer respecting Dhond and Munmar Railway. Distress severe. Local funds exhausted.

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11	Secretary to Government of India.	Oct. 4, 1876 -	<i>Telegram.</i> Grounds submitted not sufficient to justify immediate commencement of Dhond and Munmar Railway. Local relief works may be started. Incidence of expenditure to be considered hereafter.
11	Governor, Bombay -	Oct. 12, 1876 -	<i>Telegram.</i> Reports exceedingly bad. Council unanimously of opinion that Dhond and Munmar Railway must be commenced.
11	Secretary to Government of India.	Oct. 16, 1876 -	<i>Telegram.</i> Government of India do not think it right to embark on large project involving continuance of expenditure after emergency has ceased. Local works should be organised, Government of Bombay providing necessary funds.
11	Governor, Bombay -	Oct. 17, 1876 -	<i>Telegram.</i> Will endeavour to give effect to instructions.
11	GOVERNMENT OF INDIA	Oct. 26, 1876, No. 22.	AREA OF DISTRESS IN BOMBAY PRESIDENCY MORE EXTENDED THAN AT FIRST SUPPOSED. NINE DISTRICTS (53,000 SQUARE MILES, POPULATION ABOUT 8 MILLIONS, LAND REVENUE, Rs. 1,39,40,000) MORE OR LESS AFFECTED. EVIDENT THAT PROVINCIAL RESOURCES MUST BE SUPPLEMENTED BY IMPERIAL EXPENDITURE. THOSE RELIEF WORKS TO BE PREFERRED WHICH CAN BE COMPLETED WITHIN OUTLAY NECESSARY FOR RELIEF. DESIRE OF BOMBAY GOVERNMENT TO INVITE TENDERS FOR SUPPLY OF GRAIN, AND TO ABSTAIN FROM MAKING PURCHASES IN THE GENERAL MARKET ON ITS OWN BEHALF APPROVED: ALSO INCREASE OF ADMINISTRATIVE STAFF. SATISFIED WITH CONDUCT OF BOMBAY GOVERNMENT. THE SCARCITY IN THE MADRAS PRESIDENCY.
ENCLOSURES.			
12	President in Council -	Oct. 25, 1876 -	<i>Telegram</i> to Secretary of State, summarising preceding Despatch.
12	Secretary, Government of Bombay.	Oct. 9, 1876 -	Whole of eastern parts of Deccan and southern Mahratta country threatened with famine. Revenue Commissioner, Southern Division, directed to proceed to affected districts. To avert extreme distress, relief on a larger scale must be commenced. Bombay Government may be trusted to avoid extravagance and ultimate waste.
13	Acting Collector, Sholapur.	Oct. 4, 1876 -	Almost total failure of crops throughout collectorate. Necessity for fresh relief works on larger scale.
14	Revenue Commissioner, Southern Division.	Oct. 5, 1876 -	Recommending sanction to certain works.
15	Under Secretary to Government of Bombay.	Oct. 13, 1876 -	Publishing resolutions by Government of Bombay.
15	Government of Bombay.	Oct. 4, 1876 -	Resolutions by the Government of Bombay.
15	Ditto - -	Oct. 5, 1876 -	
16	Ditto - -	Aug. 29, 1876 -	
16	Ditto - -	Sept. 22, 1876 -	
17	Ditto - -	Oct. 3, 1876 -	
18	Ditto - -	Oct. 3, 1876 -	
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19	Ditto - -	Oct. 3, 1876 -	
20	Ditto - -	Oct. 3, 1876 -	
20	Ditto - -	Oct. 6, 1876 -	
21	Ditto - -	Oct. 9, 1876 -	
22	Ditto - -	Oct. 11, 1876 -	
23	Ditto - -	Oct. 12, 1876 -	
24	Chief Secretary to Government of Bombay.	Oct. 16, 1876 -	Requesting views of Government of India on proposals for relief of Poona, Ahmednagar, and Sholapur districts.
24	Collector of Poona -	Oct. 10, 1876 -	<i>Demi-official</i> , reporting bad condition of Dhond, and need of prompt assistance.
24	Revenue Commissioner, Southern Division, and Superintending Engineer, Central Division.	Oct. 10, 1876 -	Report of visit to Poona and Ahmednagar collectorates. Estimated cost of earthwork on Dhond and Munmar Railway (133 miles), 15 lakhs. Recommend immediate commencement of surveyed portion, 47 miles. Suggestions as to grain supply.

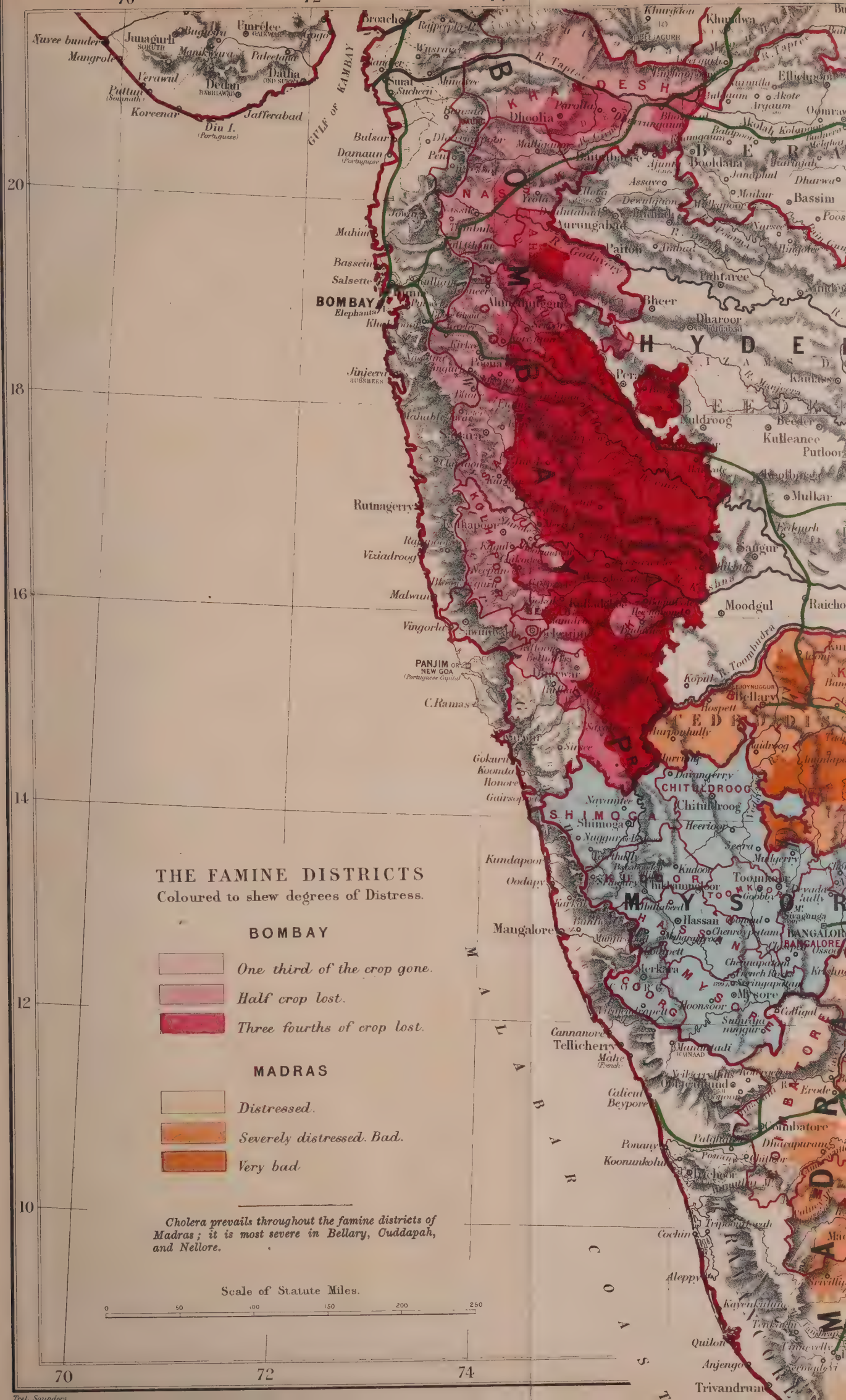
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26	Acting Collector of Poona.	Oct. 10, 1876 -	Population likely to be affected. Best organisation for a large work. In favour of small works. Opposed to collection of large numbers of people. Minor works. Grain stores.
27	Secretary to Government of Bombay.	Oct. 9, 1876 -	Forwards papers, and states whole of eastern parts of Deccan and Southern Mahratta country are threatened with serious famine.
28	Government of Bombay.	Oct. 16, 1876 -	Resolution, estimating population affected, cost of relief, duration of famine, and measures to be adopted.
30	Chief Secretary to Government of Bombay.	Oct. 19, 1876 -	Forwards papers regarding Satara and Dharwar collectorates.
30	Subordinate Judge, Tasgaon.	Oct. 3, 1876 -	Bad condition of Tasgaon taluka. Cultivators have no grain in store, their surplus going to the Soncars, and no money. Willing to work, but no employment.
31	Ditto - -	Oct. 8, 1876 -	Fears that riots may occur.
31	Acting Collector, Satara.	Oct. 10, 1876 -	To prevent riots, is of opinion that those who have granaries should be compelled to open them, if persuasion fails.
32	Ditto - -	Oct. 10, 1876 -	Asks approval of measures to prevent riots. Suggests Rs. 5,000 grain should be sent from Bombay. Traders disposed to sell at fair rates.
33	Revenue Commissioner, Southern Division.	Oct. 13, 1876 -	<i>Memorandum</i> , disapproving of measures reported in preceding letter. Grain asked for appears insufficient.
34	Government of Bombay.	Oct. 17, 1876 -	<i>Resolution</i> , granting Rs. 25,000 for grain to Satara. No reason to suppose scarcity of grain. Most averse to interfere with free action of traders.
34	Collector, Dharwar -	Oct. 7, 1876 -	Relief works. Insufficient establishment.
34	Ditto - -	Oct. 6, 1876 -	Dambal road making rapid progress. New works must be provided.
35	Executive Engineer, Dharwar.	Oct. 6, 1876 -	Report for whole district, in reply to preceding.
35	Revenue Commissioner, Southern Division.	Oct. 13, 1876 -	<i>Memorandum</i> , forwarding the preceding for orders of Government.
35	Government of Bombay.	Oct. 17, 1876 -	<i>Resolution</i> . Dambal tank to be commenced at once. Buying grain in general market to be avoided.
36	Ditto - -	Oct. 12, 1876 -	<i>Resolution</i> . Revenue Commissioner, Southern Division, competent to sanction local works submitted by him.
37	Ditto - -	Oct. 16, 1876 -	<i>Resolution</i> . If necessary to undertake relief works on large scale, it may be advisable to invite tenders for supply of grain.
37	Memorandum - -	Oct. 21, 1876 -	On the condition and resources of the districts in the Bombay Presidency which are threatened with scarcity.
41	Secretary to Government of India.	Oct. 22, 1876 -	<i>Telegram</i> , requesting preparation of statements as to Bombay affected districts.
41	Secretary to Government of India, Public Works Department.	Oct. 23, 1876 -	<i>Telegram</i> , informing Bombay Government initiation of measures to rest with Department of Agriculture and Commerce. Public Works Department confined to professional details after sanction.
41	Ditto - -	Oct. 23, 1876 -	Letter to same effect.
41	Governor, Bombay -	Oct. 24, 1876 -	<i>Telegram</i> . Statements being prepared. Population to be relieved likely to be larger than calculated.
41	Secretary to Government of India.	Oct. 25, 1876 -	Communicating to Bombay Government views of Government of India on measures already taken, and on policy to be observed generally.
45	Ditto - -	Oct. 25, 1876 -	<i>Telegram</i> , giving summary of preceding letter.
45	Secretary to Government of Madras.	Oct. 24, 1876 -	<i>Telegram</i> . Grave condition of Kurnool, Kuddapah, and Bellary districts.
45	Secretary to Government of India.	Oct. 25, 1876 -	Measures of Madras Government approved. Statements to be prepared as to affected districts.
46	SECRETARY OF STATE	Dec. 7, 1876, No. 44.	REPLYING TO GOVERNMENT OF INDIA DESPATCH, OCT. 26. BOMBAY AND MADRAS TO SEND WEEKLY REPORTS.

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46	GOVERNMENT OF INDIA	Nov. 2, 1876, No. 24.	FORWARDS CORRESPONDENCE REGARDING SCARCITY IN BOMBAY AND MADRAS, THE NIZAM'S TERRITORIES, AND MYSORE. OCCUPANCY RIGHTS OF RYOTS REDUCED BY UNFAVOURABLE SEASON NOT TO BE SOLD IN DEFAULT OF PAYMENT OF LAND REVENUE, AND EXEMPTIONS GRANTED IN CASES OF INDISPENSABLE SALES OF MOVABLE PROPERTY. BOMBAY SCHEME OF RELIEF WORKS, AMOUNTING TO 62 LAKHS, UNDER CONSIDERATION: ALSO SUGGESTION OF RESIDENT, HYDERABAD, TO REDUCE RAILWAY FREIGHT ON GRAIN. FEAR THAT SCARCITY WILL ENTAIL CONSIDERABLE LOSS OF LAND REVENUE AND EXPENDITURE OF IMPERIAL FUNDS.
	ENCLOSURES.		
47	President in Council	Nov. 2, 1876 -	<i>Telegram</i> , summarising preceding Despatch.
47	Secretary to Government of Bombay.	Oct. 21, 1876 -	Forwarding to Government of India.
48	Collector, Násik -	Oct. 15, 1876 -	Condition and prospects of Násik collectorate. Scarcity, not famine. Not anxious about grain supplies.
51	Government of Bombay.	Oct. 21, 1876 -	<i>Resolution</i> as to remissions in Násik collectorate.
51	Government of Bombay.	Oct. 27, 1876 -	<i>Resolution</i> , sanctioning scheme of relief works amounting to Rs. 61,84,790 for nine districts. Difficulty arising from uncertainty as to ultimate demands for relief. Suggested transfer of population. Instructions to officers.
52	President in Council, Madras.	Oct. 27, 1876 -	<i>Telegram</i> , asking sanction to embankment work of Bel-lary Guddak Railway.
52	Secretary to Government of India.	Oct. 27, 1876 -	<i>Telegram</i> . Cannot sanction. Local works should be organised.
53	Madras Government.	Oct. 27, 1876 -	<i>Telegram</i> . Relief works already aggregate Rs. 3,77,770.
53	Secretary to Government of India.	Oct. 31, 1876 -	<i>Telegram</i> , in reply to preceding, calls for report already asked for.
53	Resident, Hyderabad	Oct. 30, 1876 -	<i>Telegram</i> . Merchants offer to import grain if railway transport be lowered.
53	Secretary to Government of India.	Nov. 1, 1876 -	<i>Telegram</i> . Question affects other provinces.
53	Chief Commissioner, Mysore.	Oct. 3, 1876 -	Condition of Mysore. Grant of 10 lakhs requested.
54	Ditto - -	Oct. 25, 1876 -	<i>Telegram</i> . Prospects worse.
54	Under Secretary to Government of India, Foreign Department.	Oct. 30, 1876 -	<i>Telegram</i> , calling for statements as to affected districts.
54	GOVERNMENT OF INDIA.	Nov. 9, 1876, No. 27.	NO CHANGE FOR BETTER. BOMBAY SCHEME OF RELIEF WORKS MODIFIED. REDUCTION OF FREIGHT OF GRAIN BY RAILWAY UNDECIDED.
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55	Secretary to Government of India.	Nov. 3, 1876 -	Approving suggestions of Bombay Government* as to occupancy rights of ryots (p. 47).
55 to 59	} Ditto - - - -	Nov. 3, 1876 - {	Weekly reports of rainfall and state of crops in Bombay distressed districts.
59	Collector, Khandesh -	Oct. 12, 1876 -	Report of visit to central and eastern talukas of Khandesh collectorate.
61	Chief Commissioner, Mysore.	Nov. 1, 1876 -	Condition worse. Proposes to supplement local subscriptions by equivalent Government grant.
61	Under Secretary to Government of India, Foreign Department.	Nov. 2, 1876 -	Proposal contained in preceding telegram approved.
61 to 69	} - - - - -	- - - - - {	Statements of proposed expenditure in Bombay distressed districts.
69	Secretary to Government of India.	Nov. 9, 1876 -	Instructions of Government of India as to Bombay scheme of relief works.
69	Ditto - - - -	Nov. 4, 1876 -	Is statement regarding increased grain traffic on Great Indian Peninsula Railway correct?
69	Ditto - - - -	Nov. 7, 1876 -	Is reduction in railway freight of grain needed also in Madras and Bombay?
69	Secretary to Government of Bombay.	Nov. 7, 1876 -	Statement regarding increased grain traffic generally correct.
70	SECRETARY OF STATE	Dec. 21, 1876, No. 46.	REPLY TO DESPATCHES OF NOVEMBER 2 AND 9.

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70	GOVERNMENT OF INDIA	Nov. 17, 1876, No. 28.	ASPECT OF AFFAIRS STILL EXTREMELY SERIOUS. BOMBAY GOVERNMENT REMONSTRATE AGAINST MODIFIED PROGRAMME OF RELIEF WORKS. MEASURES FOR PRESERVATION OF CATTLE. RECOMMENDATION OF RESIDENT AT HYDERABAD TO REDUCE GRAIN FREIGHT NOT ACCEDED TO. IN BOMBAY AND MADRAS PRIVATE TRADE ACTIVE. PURCHASE OF GRAIN BY MADRAS GOVERNMENT.
	ENCLOSURES.		
72	Secretary to Government of Bombay.	Nov. 9, 1876 -	<i>Telegram.</i> Reduction of railway rates not called for.
72	Ditto - - -	Nov. 10, 1876 -	<i>Telegram.</i> No deaths from starvation in Sholapur district.
72	Secretary to Government of Bombay.	Nov. 9, 1876 -	<i>Telegram.</i> Reduction railway freight of grain unnecessary.
72	Resident, Hyderabad	Nov. 11, 1876 -	<i>Telegram.</i> Again urges reduction railway charge.
72	Sir A. Arbuthnot -	Nov. 11, 1876 -	<i>Telegram.</i> Madras and Bombay object. Reduction not advisable.
72	Secretary to Government of Bombay.	Nov. 8, 1876 -	<i>Telegram.</i> Collectors of five Districts authorised each to spend Rs. 25,000, to keep alive infirm and poor.
72	Secretary to Government of India.	Nov. 9, 1876 -	<i>Telegram.</i> Asks for further information as to preceding telegram.
72	Secretary to Government of Bombay.	Nov. 10, 1876 -	Enormous grain traffic over Great Indian Peninsula Railway. Prices falling. Grain coming from Persian Gulf, Sind, and Guzarat.
73	Secretary to Government of Bombay.	Nov. 13, 1876 -	<i>Telegram</i> in explanation of gratuitous relief to incapable and destitute.
73	Secretary to Government of Madras.	Nov. 4, 1876 -	<i>Telegram,</i> reporting purchase of 15,000 tons of rice at cost of 32 lakhs, as reserve.
73	Sir A. Arbuthnot, Simla.	Nov. 11, 1876 -	<i>Telegram,</i> forbidding further purchases without previous reference to Government of India. Proceeding reported calculated to cause serious embarrassment.
73	Secretary to Government of Bombay.	Nov. 6, 1876 -	<i>Telegram.</i> Will attend to suggestions in letter of 25th ult., and keep Government of India informed of course of events.
73	Secretary to Government of India.	Nov. 10, 1876 -	<i>Telegram</i> for full information about Bombay irrigation relief works.
73	Ditto - - -	Nov. 9, 1876 -	Reviews Bombay programme of relief works; disallows certain works, and calls for explanations.
75	Secretary to Government of Bombay.	Nov. 11, 1876 -	<i>Telegram,</i> remonstrating against orders contained in the preceding letter.
75	Revenue Secretary, Calcutta.	Nov. 17, 1876 -	No objection to Bombay throwing open forest reserves as free grazing grounds.
75	Secretary to Government of Madras.	Nov. 7, 1876 -	Reviewing condition of distressed districts.
78	GOVERNMENT OF INDIA	Nov. 24, 1876, No. 30.	PROCEEDINGS OF MADRAS GOVERNMENT OPEN TO QUESTION.
79	Resident, Hyderabad	Nov. 11, 1876 -	Forwards letter from Nizam's Government, asking reduction of railway charges on grain freight. Supports the same.
80	Nizam's Government	Nov. 9, 1876 -	Request alluded to in preceding letter. Copy of instructions for organisation of relief in Hyderabad State.
81	Resident, Hyderabad	Nov. 11, 1876 -	Summarising letter of same date.
81	Secretary to Government of India.	Nov. 19, 1876 -	Decision of Government of India accepted by Nizam's minister.
81	Revenue Secretary, Calcutta.	Nov. 15, 1876 -	<i>Telegram</i> for names of works commenced which would be suspended under telegram of 9th.
82	Secretary to Government of Bombay.	Nov. 17, 1876 -	<i>Telegram</i> in reply to preceding.
82	Revenue Secretary, Calcutta.	Nov. 18, 1876 -	<i>Telegram.</i> Information in preceding not sufficient. Government of India await letter.
82	Secretary to Government of Bombay.	Nov. 11, 1876 -	Increase to staff. Concentration of correspondence in one department, that of Public Works.
82	Secretary to Government of India.	Nov. 24, 1876 -	In reply to preceding letter, selection of Public Works Department for concentration open to grave objections.
83	Secretary to Government of Madras.	Nov. 13, 1876 -	In explanation of purchase of grain.
84	Revenue Secretary, Calcutta.	Nov. 20, 1876 -	<i>Telegram.</i> Preceding letter does not explain necessity for action without reference to Government of India.
84	Secretary to Madras Government.	Nov. 23, 1876 -	<i>Telegram</i> in reply to preceding.
85	Revenue Secretary, Calcutta.	Nov. 24, 1876 -	<i>Telegram,</i> requesting full explanation by post. Further contemplated purchase must be postponed.
85	Agent to Governor-General, Central India.	Oct. 14, 1876 -	<i>Diary.</i> Loss of cattle. Corndealers declined proffered aid of Maharaja. Proceedings of Maharaja.

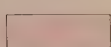
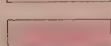
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86	GOVERNMENT OF INDIA	Dec. 1, 1876, No. 31.	PROCEEDINGS OF MADRAS GOVERNMENT. RELIEF MEASURES IN MYSORE. PROTECTION OF RYOTS IN CASES OF DEFAULT ATTRIBUTABLE TO DROUGHT. STATISTICAL STATEMENTS FROM BOMBAY, AND INSTRUCTIONS ISSUED UPON RECEIPT OF THEM. SITUATION SUCH AS TO CAUSE VERY SERIOUS ANXIETY FROM FINANCIAL POINT OF VIEW.
ENCLOSURES.			
87	Secretary to Government of India.	Nov. 25, 1876 -	Instructions to Madras as to relief expenditure and necessity for full information.
88	Secretary to Government of Madras.	Nov. 19, 1876 -	Sir A. Arbuthnot's telegram "en clair" has rendered futile efforts to keep grain transactions secret.
88	Secretary to Government of India.	Nov. 29, 1876 -	In reply to preceding.
88	Chief Commissioner, Mysore.	Nov. 8, 1876 -	Condition of Mysore and Coorg, and measures of relief.
89	Commissioner, Nundydroog Division.	Oct. 26, 1876 -	Condition of respective districts, and measures of relief.
90	Deputy Commissioner, Bungalow District.	Oct. 24, 1876 -	
91	Deputy Commissioner, Kolar District.	Oct. 24, 1876 -	
92	Chief Commissioner, Mysore.	Oct. 27, 1876 -	Orders issued on recommendations contained in the foregoing.
94	Commissioner, Nundydroog.	Oct. 27, 1876 -	Bad condition of Tumkur district.
94	Chief Commissioner, Mysore.	Oct. 31, 1876 -	Order thereon.
95	Ditto - - -	Nov. 2, 1876 -	Order granting in respect of remissions or suspensions of land revenue.
95	Secretary to Government of India.	Nov. 27, 1876 -	In reply to letter of November 8, calling for fortnightly narrative.
95	Revenue Secretary, Calcutta.	Nov. 27, 1876 -	Asking Commissioner of Mysore if statement is correct as to his purchasing grain at Madras.
95	Chief Commissioner, Mysore.	Nov. 28, 1876 -	Statement devoid of foundation.
95	Secretary to Government of Bombay.	Nov. 18, 1876 -	Forwarding resolution regulating remissions.
96	Secretary to Government of India.	Nov. 30, 1876 -	The foregoing instructions do not seem to provide for sale of land for default, and exemption of necessary movable in case of indispensable sale.
96	Revenue Secretary, Calcutta.	Nov. 25, 1876 -	Telegram for truth of statement as to block of grain on railway.
96	Secretary to Government of Bombay.	Nov. 25, 1876 -	Statement exaggerated, but block on Great Indian Peninsula Railway owing to deficient waggon stock, &c.
97 to 101	- - - - -	- - - - -	Statements regarding the famine districts in the Deccan and Southern Mahratta country called for by Government of India.
102	Secretary to Government of India.	Nov. 30, 1876 -	Reviewing statements furnished by Bombay, and calling for further information on certain points.
103	Public Works Secretary, Bombay.	Nov. 30, 1876 -	Outlay up to 31st March probably 54 lakhs; from 1st April to 31st October 86 lakhs.
103	SECRETARY OF STATE	Jan. 5, 1877, No. 4.	IN REPLY TO DESPATCH OF DEC. 1, 1876.
104	GOVERNMENT OF INDIA	Dec. 8, 1876, No. 32.	ESTIMATES OF LOSS OF REVENUE AND EXPENDITURE: MADRAS, 2 CRORES 32 LAKHS; BOMBAY, 2 CRORES 6 LAKHS; TOTAL, 4,380,000 <i>l</i> . ON MADRAS RAILWAY FOOD GRAINS TO HAVE PREFERENCE OVER OTHER GOODS. INFLUX OF PEOPLE FROM NIZAM'S TERRITORIES.
105	Secretary to Government of Madras.	Nov. 24, 1876 -	Estimate of loss of revenue from famine.
105	Board of Revenue, Madras.	Dec. 1, 1876 -	Revised estimate, showing loss and expenditure.
105	Accountant General, Bombay.	Nov. 28, 1876 -	Revised estimate, showing loss of revenue for Bombay.
107	Secretary to Government of Bombay.	Nov. 30, 1876 -	Estimate of expenditure for Bombay.
108	Governor, Madras -	Dec. 1, 1876 -	Telegram. Railway being unequal to grain traffic, grain to have preference over other goods.
108	President in Council, Calcutta.	Dec. 2, 1876 -	Telegram, approving foregoing.

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108	Secretary to Government of Madras.	Dec. 5, 1876 -	<i>Telegram.</i> Influx of people from Nizam's territories.
108	Secretary to Government of India.	Dec. 8, 1876 -	Referring to estimate of loss to State (p. 105) ; calls for further explanations.
109	GOVERNMENT OF INDIA	Dec. 15, 1876, No. 33.	VIEWS OF GOVERNMENT OF INDIA ON EXCEPTION TAKEN BY BOMBAY GOVERNMENT TO INTERFERENCE WITH SCHEME OF RELIEF WORKS. REASONS OF MADRAS GOVERNMENT FOR PURCHASE OF GRAIN APPEAR UNSATISFACTORY.
110	Secretary to Government of Bombay.	Nov. 27, 1876 -	Defends original programme of relief works, and states that if Government of India withdraw their confidence in Bombay Government, the latter will do their best not to exceed any specified outlay which the Government of India may name.
115	Secretary to Government of Bombay.	Dec. 8, 1876 -	Explanation.
116	Secretary to Government of India.	Dec. 15, 1876 -	Replying to letters of Bombay Government (pp. 110, 115) on subject of scheme of relief works.
119	Secretary to Government of Madras.	Nov. 30, 1876 -	Stating reasons for purchase of grain.
120	Governor, Madras -	Dec. 12, 1876 -	<i>Telegram,</i> urgently requesting permission to make further purchase of grain.
120	Sir A. Arbuthnot -	Dec. 13, 1876 -	Cannot sanction foregoing request. Better run risk of high payment in local markets than occur immediate heavy penalty.
120	Secretary to Government of India.	Dec. 15, 1876 -	Requesting fuller information from Madras as to distressed districts.
121	SECRETARY OF STATE	Jan. 12, 1877, No. 6.	REVIEWING CONDITIONS AND PROSPECTS OF DISTRESSED DISTRICTS, AND MEASURES TAKEN TO AFFORD RELIEF. WIDEST DISCRETION IN ALL ADMINISTRATIVE DETAILS LEFT TO GOVERNMENT OF INDIA. MISSION OF SIR R. TEMPLE TO MADRAS APPROVED. RESERVES OPINION ON DIFFERENCE OF OPINION BETWEEN GOVERNMENTS OF INDIA AND BOMBAY AS TO EXPENDITURE ON RELIEF WORKS. THE PURCHASE OF GRAIN BY MADRAS GOVERNMENT.

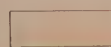


THE FAMINE DISTRICTS
Coloured to shew degrees of Distress.

BOMBAY

-  One third of the crop gone.
-  Half crop lost.
-  Three fourths of crop lost.

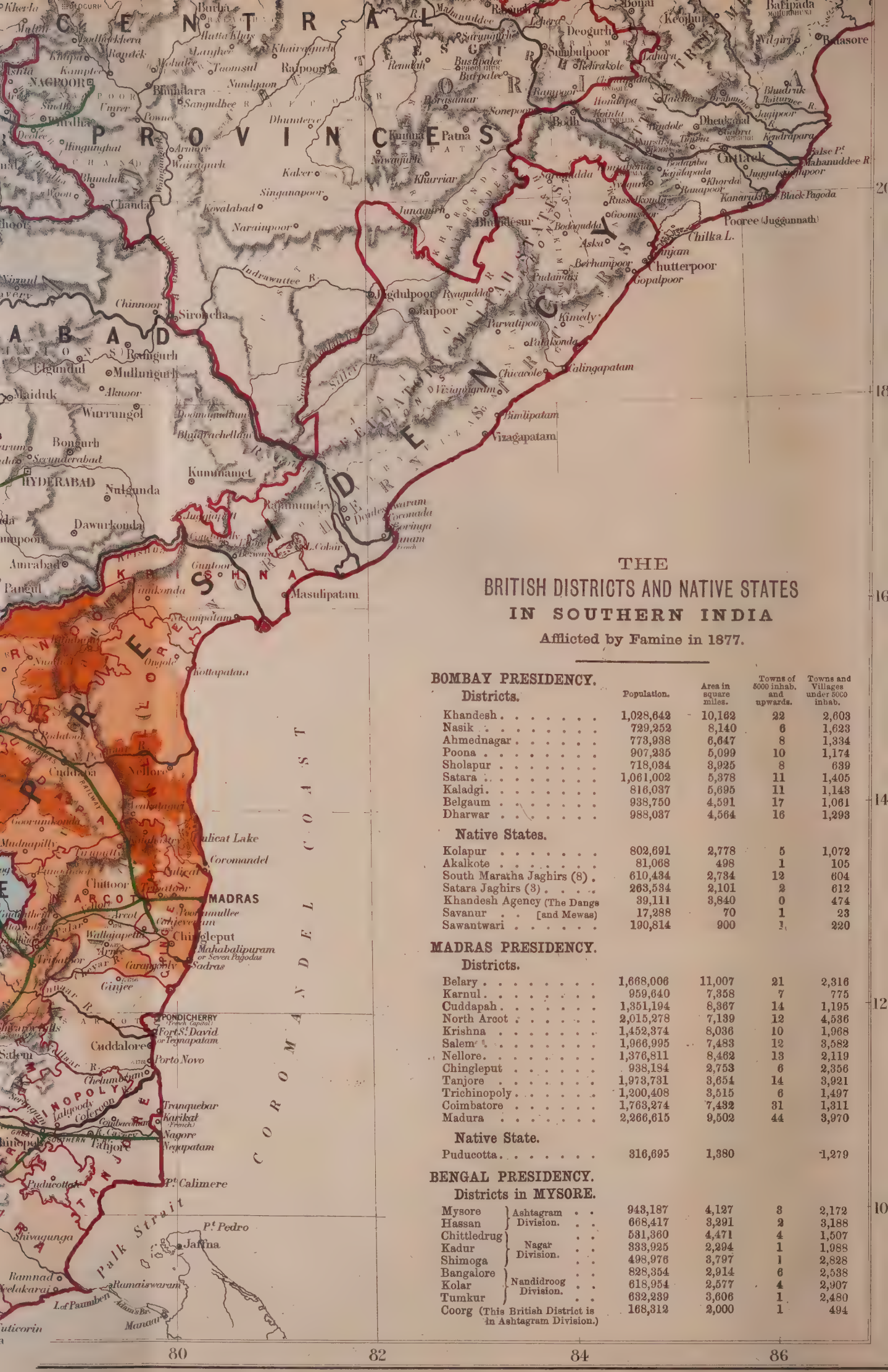
MADRAS

-  Distressed.
-  Severely distressed. Bad.
-  Very bad

Cholera prevails throughout the famine districts of Madras; it is most severe in Bellary, Cuddapah, and Nellore.

Scale of Statute Miles.





THE
BRITISH DISTRICTS AND NATIVE STATES
IN SOUTHERN INDIA
Afflicted by Famine in 1877.

BOMBAY PRESIDENCY.

Districts.	Population.	Area in square miles.	Towns of 5000 inhab. and upwards.	Towns and Villages under 5000 inhab.
Khandesh	1,028,642	10,162	22	2,603
Nasik	729,252	8,140	6	1,623
Ahmednagar	773,998	6,647	8	1,334
Poona	907,235	5,099	10	1,174
Sholapur	718,034	3,925	8	639
Satara	1,061,002	5,378	11	1,405
Kaladgi	816,037	5,695	11	1,143
Belgaum	938,750	4,591	17	1,061
Dharwar	988,037	4,564	16	1,293

Native States.

Kolapur	802,691	2,778	5	1,072
Akalakote	81,068	498	1	105
South Maratha Jaghirs (8)	610,434	2,734	12	604
Satara Jaghirs (3)	263,594	2,101	2	612
Khandesh Agency (The Dangs)	39,111	3,840	0	474
Savanur [and Mewas]	17,288	70	1	23
Sawantwari	190,814	900	1	220

MADRAS PRESIDENCY.

Districts.	Population.	Area in square miles.	Towns of 5000 inhab. and upwards.	Towns and Villages under 5000 inhab.
Belary	1,668,006	11,007	21	2,316
Karnul	959,640	7,358	7	775
Cuddapah	1,351,194	8,367	14	1,195
North Arcot	2,015,278	7,139	12	4,536
Krishna	1,452,374	8,036	10	1,968
Salem	1,066,995	7,483	12	3,582
Nellore	1,376,811	8,462	13	2,119
Chingleput	938,184	2,753	6	2,356
Tanjore	1,973,731	3,654	14	3,921
Trichinopoly	1,200,408	3,515	6	1,497
Coimbatore	1,763,274	7,432	31	1,311
Madura	2,266,615	9,502	44	3,970

Native State.

Puducotta	316,695	1,380		1,279
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BENGAL PRESIDENCY.

Districts in MYSORE.

Mysore	943,187	4,127	3	2,172
Hassan	668,417	3,291	2	3,188
Chittledrug	531,360	4,471	4	1,507
Kadur	333,925	2,294	1	1,988
Shimoga	498,976	3,797	1	2,828
Bangalore	828,354	2,914	6	2,538
Kolar	618,954	2,577	4	2,907
Tumkur	632,239	3,606	1	2,480
Coorg (This British District is in Ashtagram Division.)	168,312	2,000	1	494

CORRESPONDENCE.

No. 13 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Simla, 31st July.

1. We have the honour to forward, for your Lordship's information, copies of the correspondence with the Government of Madras noted on the margin, on the subject of the agricultural prospects in the Bellary, Cuddapah, South Arcot and North Arcot Districts, consequent on the failure of rain in those districts.

Telegram to the Government of Madras, dated the 22nd January 1876.
From the Government of Madras, No. 95, dated the 24th January 1876, and enclosures.
To ditto, ditto, No. 89, dated the 5th February 1876.
From ditto, ditto, No. 900, dated the 4th July 1876.

We have the honour to be, &c.

(Signed) LYTTON, &c.

Telegram No. 52, Calcutta, 22nd January 1876.

From the UNDER SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF MADRAS.

Your weekly telegram of state of season for week ending 20th January implies a very sudden change in prospects. Please report facts fully by letter, stating probable amount of remissions, localities affected, and any other important points.

No. 95. From the SECRETARY TO THE GOVERNMENT OF MADRAS to the SECRETARY TO THE GOVERNMENT OF INDIA.

24th January 1876.

With reference to your telegram of 22nd instant, I am directed to forward the Proceedings of Government embodying the reports which have reached them from the Collectors of the Bellary, Cuddapah, South Arcot, and North Arcot districts on the agricultural prospects in those districts consequent on the failure of rain.

I have, &c.

No. 117. Proceedings of the Board of Revenue, dated 29th October 1875, No. 3,010.

From the COLLECTOR OF BELLARY to the ACTING SECRETARY TO THE BOARD OF REVENUE, dated 26th October 1875, No. 432.

With reference to the Proceedings of the Board, No. 2,828, dated 9th instant, and to the Order of Government, No. 1,496, dated the 13th instant, I have the honour to state that the scheme of works to be undertaken in the event the distress continues are—

Opening out a road from Humpasagar to Hollal *via* Huvinhadgally.

Do. do. Oojinny *via* Kottur and Ittigy to Soovainhully on the Toongabhadra.

2. I was of opinion that it would be better to mass the labour upon one or two main lines of communication than to commence petty relief works in many localities.

3. The District Engineer agreed with me, but the Deputy Collector thinks otherwise, and there is no doubt that his remarks are deserving of consideration.

4. I request, therefore, that I may be allowed discretion, if the necessity arises, of commencing work in villages in the repair of roads, tanks, &c., independently of the Department of Public Works. I will keep the Board informed of all that is being done.

5. At present the District Engineer estimates that Rs. 12,000, in addition to the Rs. 3,000 already given by the Circle Board, will be required, and I request that that sum may be immediately granted. I request that intimation of the grant may be given by telegraph.

6. I enclose copies of correspondence which has passed on the subject. I am glad to be able to report a fall of rain in the west on the 22nd instant. I hope we may have more.

Enclosure No. 1.

2. The Collector of Bellary has selected two roads on which expenditure should be incurred in order to afford relief to the distressed population in the west of the district, and requests that Rs. 12,000 may at once be placed at his disposal. The lines of road apparently include those for which Rs. 3,000 have already been allotted by the Local Fund Board.

3. The Board believe that heavy rain has fallen in the tract in question, and trust that no special measures will be necessary, but they have not yet received report from the Collector, and they recommend that he be authorised by telegraph to spend the sum asked for if necessary.

4. The Board do not agree with the Collector in his opinion that it is better to concentrate labour. For relief works to be efficient for this purpose, it is necessary that they should be selected near the homes of the distressed population, so that men, women, and children may receive employment and be enabled to earn subsistence. Much, however, must be left to the discretion of the local officers.

No. 118. Order thereon, 9th November 1875, No. 1,607.

RECORDED. It is observed that a telegram from collector, Bellary, dated 29th ultimo, states that rain has fallen generally, and that the ryots in the western taluqs have commenced to cultivate.

No. 251. Proceedings of the Board of Revenue, dated 16th November 1875, No. 3,125.

LETTER from the COLLECTOR OF BELLARY to the ACTING SECRETARY TO THE BOARD OF REVENUE, dated 10th November 1875, No. 464.

I have the honour, with reference to the Proceedings of the Board, No. 2,967, dated the 26th ultimo, to state that I have called upon the District Engineer to state what works are actually in hand.

2. I am myself about to visit the western part of the district, so I shall be able to report more fully after personal inspection.

3. In the meantime it is evident from the letter from the Deputy Collector of the division (copy of which is herewith enclosed) that distress is alleviated for the present, but, as no wet cultivation is in progress or expected to be undertaken in those taluqs, I am afraid that, eventually, work will have to be found for the poorer classes till the next cultivation season comes round.

Enclosure No. 1.

From the DEPUTY COLLECTOR to the COLLECTOR OF BELLARY, dated Hospett, 6th November 1875, No. 272.

With reference to my letter of the 20th August last, No. 204, reporting on the insufficiency of rain and cultivation in the taluqs of my division, I have the honour to report the present state of the taluqs, as some rain has fallen since my first report.

2. I beg to annex a memorandum showing the cultivation of the land in the taluqs to the end of October 1875:—

Taluqs.	Area cultivated up to the end of October 1874.	Area cultivated up to the end of October 1875.	Decrease.	Rainfall in July, August, September, and October 1874.	Rainfall in July, August, September, and October 1875.
	Acres.	Acres.	Acres.	in oz.	in oz.
Hurpanhally	129,845	121,216	8,629	22 2 $\frac{1}{2}$	9 2 $\frac{1}{2}$
Hudgally	172,995	165,150	7,845	26 3	11 1 $\frac{1}{2}$
Kudlighi	121,148	83,076	38,072	24 8 $\frac{1}{2}$	15 1 $\frac{1}{2}$

	Sep.	Oct.
Hurpanhally	2 9 $\frac{3}{4}$	1 4
Hudgally	4 1	2 6 $\frac{3}{4}$
Kudlighi	7 6	1 9 $\frac{3}{4}$

3. The marginal memorandum shows the rain that has fallen in the Cusbah stations of the taluqs during the last two months.

4. I beg to annex a memorandum showing the rate at which Jonna (Cholum) was sold at the end of October last year and this year:—

	1874. Seers.	1875. Seers.
Hurpanhally	48 10	18 10
Hudgally	35 0	19 20
Kudlighi	33 3	19 0

5. As rain has fallen at the end of October, when the Jonna crop was ready to die for want of rain, several fields of Jonna produced the grain, which has been the cause for grain being brought to the fairs, while it was difficult to get grain in the middle of the month. The fact of the rain of this year being one half of that of last year shows that Jonna crop cannot be abundant for this year.

6. As tanks have received no water I think that there will be no wet crop in this year.

7. It is my humble opinion that poor coolies and poor ryots will have cultivation work, such as cutting Jonna produce, &c., for one month more, and that they will have no work afterwards, as there is no paddy harvest this year, and that measures will have then to be taken to provide work for the poor men.

Submitted for the information of Government.

2. The collector should make arrangements for opening the works of relief as soon as ever the want of employment is clearly shown to exist.

No. 252. Order thereon, 22nd November 1875, No. 1,672.

RECORDED.

2. The Collector will be directed to keep the Board and Government regularly and fully informed of the state of the district.

No. 227. Proceedings of the Board of Revenue, dated 20th December 1875, No. 3,385:—

Letter from the COLLECTOR OF BELLARY, to the ACTING SECRETARY TO THE BOARD OF REVENUE, dated Daroji, 14 December 1875, No. 503.

In continuation of my letter, No. 464, dated the 10th ultimo, embodied in the Proceedings of the Board, No. 3,125, dated the 16th idem, and in G.O., Revenue Department, No. 1,672, dated the 22nd idem, I have the honour to report that during the month of November I traversed a great portion of the taluq of Hadgally and part of Harpanhally, those in which distress had been reported by the Deputy Collector as most severe.

2. In the first-named taluq the villages mentioned in the margin were said to be the worst off, but I found that almost all the lands, even in them, had been cultivated and sown for the cold weather crop. The crops will be poor, no doubt, but still there will be some produce. The first or wet-weather crop, consisting chiefly of yellow cholum, was, generally speaking, a failure. The coming crop consists of white cholum, cotton, &c. The tanks were very generally dry, or else very low ;

there will, therefore, be hardly any wet cultivation. Many of the above-mentioned villages, however, produce only dry crop.

3. In Harpanhally the villages as named in the margin are reported to be the worst off, but here again the lands are nearly all sown for the second or cold-weather crop, which may be expected to produce something.

4. In the Kudlighi Taluq alone is there any great decrease in the area cultivated as compared with last year (*vide* extract annexed), but I have no reason to believe that the condition of this

taluk is worse than that of the other two.

5. The truth is that, when the rain held off so long, a panic arose in the market, and for a week or two grain was sold at really famine prices ; a rupee bought only twelve seers of cholum.

6. The fall of rain in October, slight though it was, sufficed to allay this panic, and now cholum, the food of the masses, is to be had everywhere, though at a heavy price compared to those usually obtaining.

7. I annex a memorandum showing the price as compared with that of last year.

8. No rain is expected now, and if it did fall it would hardly benefit the standing crops.

9. As regards relief works, two have been put in hand ; viz., the road from Oojinny *via* Kottoor and Ittigay to Soovainhally on the Dharwar Road, near the Toongabhadra, and that from Hampasagar to Hollal *via* Hadgally.

10. The range officer, however, reports that he cannot get as many coolies as he wants for the work at present. The greatest number at any one time employed in one taluk was 652 ; this was in Harpanhally. The range officer is anxious to get the roads marked out. He would then be able, upon emergency, to employ any number of men upon earthwork or digging gravel in particular places.

11. The small allotment made by the Local Fund Board of the Bellary Circle, Rs. 3,000, will soon be expended, and moreover it is not available for Harpanhally, where the greatest number of labourers presented themselves.

12. I request, therefore, that the sum asked for by me in my letter, No. 432, dated the 26th October last, and which the Board, in their Proceedings, No. 3,010, of the 29th idem, requested the Government to sanction, may be placed at my disposal, as there is no doubt that in the course of a month or so, when the crops have been cut ("the prices continuing high"), the means of obtaining subsistence will be difficult. Labour should then be provided to enable the people to earn wages.

Enclosure No. 1.—Memorandum of Cultivated Area.

Submitted for the information of Government.

2. With reference to the papers recorded in G.O., dated 9th November 1875, No. 1,607, the Board request that the sum asked for by the collector ; viz., Rs. 12,000, may be placed at his disposal by telegraph.

No. 228. ORDER thereon, 21st December 1875, No. 1,833.

Sanctioned Rs. 12,000, by telegram.

No. 66. Proceedings of the Board of Revenue, dated 21st December 1875, No. 3,391.

LETTER from the COLLECTOR OF CUDDAPAH to the ACTING SECRETARY TO THE BOARD OF REVENUE, dated Cuddapah, 11th December 1875, No. 263.

I have the honour to report, for the information of the Board, on the agricultural prospects in this district.

2. The north-east monsoon, upon which this district is mainly dependent for water, promised at first to give the usual supply, but eventually the rain ceased and tanks throughout the district received little or no water. Wet cultivation is almost everywhere at a standstill, except where wells can supplement the supply. Wet crops are to be seen growing, but at present their prospects are very poor. Wet ayacuts under river channels are not as badly off, except in the Sidhout Taluq, as the lands under tanks. In the Pullampett Taluq alone, where wet cultivation under tanks and channels is very extensive, the Tahsildar has estimated that remissions amounting to Rs. 30,000 will be necessary this year. In the sub-division the sub-collector fears the remission will amount to a lakh of rupees, that is in four taluqs comprising the division.

3. Dry crops are not as they should be by any means, but they are not so badly off as the wet crops. The early dry crops, such as sudza and oil-seeds had rain to assist them, but not as

much as they required. Jonna and horse-gram sown later in the season will entirely be lost unless some rain falls hereafter. This does not apply to the black cotton taluqs, where cotton and jonna seem to be in very fair condition.

4. I do not in the least apprehend any distress. The season has been so far a bad one, and there will be a loss of revenue if rain does not fall. As I write I am glad to say that there are some indications of rain.

5. Pasture is sufficient. Prices are everywhere steadily rising. Health is good, except as regards fever, which is rather severe. Cholera has almost disappeared.

6. Floods apparently have less effect on this district than a drought. If Government would treat wet wells more liberally the effects of a dry season would not be so severely felt by the ryot. I have written before on this subject, but I regret to say that my views did not meet with the approval of the Board.

7. To relieve the ryots I have directed that kists of wet lands are to be collected according to the extent of cultivation, and not according to the demand of the past year. Dry kists will, of course, be collected as usual. I trust that the Board will approve of this arrangement.

The Board approve the Collector's proposal in the last paragraph of his letter.

2. They request that a weekly report may be furnished showing the condition of prices of food grains in the principal markets as compared with the corresponding period of the previous year.

No. 67. ORDER thereon, 10th January 1876, No. 32.

RECORDED. The Government desire to have the views of the Collector, the Director of Revenue Settlements, and the Board of Revenue, placed before them in greater detail regarding the question raised by the Collector (paragraph 6).

2. The previous correspondence was not specially communicated to Government, but is found in Board's Proceedings, No. 2,355, dated 22nd August 1874.

No. 111. Proceedings of the Board of Revenue, dated 11th January 1876, No. 68.

LETTER from the COLLECTOR OF SOUTH ARCOT, to the ACTING SECRETARY TO THE BOARD OF REVENUE, dated Cuddalore, 6th January 1876, No. 1.

I regret to report that, owing to the want of rain, the prospects of the harvest are bad.

2. For the most part, so far as dry crops are concerned, I do not think there will be any need for remissions; but in the northern and eastern parts of Tindivanam Taluq there seems to be a probability that, unless timely rain falls, such remissions may be needed. Mr. Gibson writes to me demi-officially from Tindivanam:—

"January 5th.—The season here is turning out worse than my hopes. The change for the worse since the day I left for Christmas is most marked. 'Wet' crops, except where kept alive by pecotahs, are withering. No dew worth mentioning, and dry crops suffering, having been late sown. I fear very large remissions will be necessary on almost the whole irrigated ayacut of the northern and eastern parts of *this* taluq at least; and, I fear, we may have to apply for remissions on punjah also. It seems, in this *corner* at any rate, to be a worse season than that of 1873-74, when such remissions were freely granted."

3. I have asked him to report officially, and to estimate to what extent he thinks punjah remissions may be required.

4. As to wet crops, I fear that over a great part of the district, except where there is anicut-channel or river-channel irrigation, punjah remissions may have to be given. Applications are pouring in in great numbers daily.

5. I will report further at the end of a week or ten days.

Submitted for the information of Government. The Board await Mr. Garstin's further report.

No. 112. ORDER thereon, 13th January 1876, No. 55.

The Government infer from the Collector's silence on the point that there is no reason to anticipate actual distress, but they desire that the earliest intimation of probable distress be submitted.

No. 171. Proceedings of the Board of Revenue, dated 18th January 1876.

LETTER from the COLLECTOR OF NORTH ARCOT, to ACTING SECRETARY TO THE BOARD OF REVENUE, dated 10th January 1876, No. 10.

I regret to have to report, for the information of the Board of Revenue, the disastrous state of the season of the current revenue-year. The north-east monsoon has proved a complete failure, while the south-west monsoon was by no means encouraging.

2. The average rain-fall throughout the district from April to December last is returned to be 23 inches, whereas that during the corresponding period of the preceding year was no less than 50 inches, or more than double the former quantity.

3. The Palar and other rivers received no freshes whatever during the past season, and almost all the tanks in the district are now completely dry. There is not a drop of water in the Cauveripauk tank, which is directly fed from the Palar Anicut, a fact unknown for the last 30 years. The spring channels everywhere are fast losing their supply.

4. In consequence a large extent of land, both dry and wet, has been left waste, and where any cultivation has been made the standing crops are perishing for want of water. The Cultivation

Return up to end of November last shows that there has been under the heads wet and dry a decrease of acres 23,055, assessed at Rs. 85,760, as shown below :—

Description of Land.	1874-75.		1875-76.		Decrease.	
	Extent.	Assessment.	Extent.	Assessment.	Extent.	Assessment.
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.
Dry	345,693	520,985	335,112	504,532	10,581	16,453
Wet	168,872	993,712	156,398	924,405	12,474	69,307
Total	514,565	1,514,697	491,510	1,428,937	23,055	85,760

5. The out-turn of the early dry crops has been tolerable, and horse-gram is expected to yield a good harvest. The result of the harvest of the early wet crops has been much below the average.

6. I expect that a large amount of remissions, especially on account of wet *Shavi*, will have to be granted at the approaching annual settlement. A very large number of applications for remission has been received, and the fields are now being inspected and reported on by the taluq officers. I fear that in consequence, the beriz of the current fasli (1285) will show a decrease of about three lakhs of rupees under land revenue as compared with that of the past fasli.

7. I purposely delayed the submission of this unpleasant report, in the hope that there might, even at the eleventh hour, be a fall of rain, and being unwilling needlessly to raise the alarm. Having, however, been disappointed in my hopes, I now regret to have to apprise the Board of the disastrous state of the present season, and the consequent evil effect it will eventually have on the Government revenue, as well as on the prices of food-grains of every description. The stocks of such grain are, I have reason to believe, considerable; so that I do not anticipate at present more than inconvenience to the poorer classes, owing to the prevalence of high prices of grain. I shall narrowly watch the progress of events, and will keep the Board fully informed; and, if need be, suggest the commencement of relief works. The misfortune that we can most certainly predict is a water famine, whereby cattle throughout the district will perish in large numbers. Already I have heard that the inhabitants of villages close to the Cauveripauk tank (which ought now to have a year's supply of water in it) are sending several miles to fetch water for drinking purposes.

Submitted for the information of Government.

2. The Collector should at once, in communication with the District Engineer, prepare a scheme of works to be undertaken in the event of its being necessary to provide employment for the poorer classes. He should report how far the ordinary imperial local fund works will meet this object, and whether there is any balance of local funds in hand available for more extended works.

No. 172. ORDER thereon, 22nd January 1876, No. 86.

Communicated to the Accountant-General. The Board's instruction, are approved. Should relief works prove necessary, the Collector should consider whether improvements to wells cannot beneficially be undertaken as was done in Bellary in 1868.

2. The Collector will be careful to warn Government of the earliest indication of distress.

No. 89, 5th February 1876.

From the SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF MADRAS.

I am directed to acknowledge the receipt of your letter, No. 95, dated the 24th ultimo, forwarding the Proceedings of the Government of Madras, embodying the reports from the Collectors of Bellary, Cuddapah, South Arcot, and North Arcot on the agricultural prospects in those districts consequent on the failure of rain, and to request that the Government of India may be favoured with a condensed statement of the views of the Government of Madras as to the prospects of the districts in question as soon as they are in a position to form definite conclusions on the subject.

No. 900, 4th July 1876.

From the SECRETARY TO THE GOVERNMENT OF FORT ST. GEORGE to the SECRETARY TO THE GOVERNMENT OF INDIA.

With reference to your letter, dated 5th February 1876, No. 89, calling for a condensed statement of the views of this Government as to the prospects of the districts named in the margin, as soon as definite conclusions might be formed on the subject, I am directed to report as follows :—

2. *Bellary*.—The distress arising from the failure of rain was confined to the southern and a part of the western portion of the district and parts of the Gooty and Raidrug Taluks. The decrease in the cultivated area was 127,008 acres, and the out-turn of crops raised in the affected taluks ranged from one-fourth to three-fourths of the usual quantity. The "dry" cultivation suffered most severely; seed sown in a considerable tract not having

germinated; and where it did germinate, the crops withered away soon after. A large extent of "dry" land was also left waste, and it was found necessary to grant remissions of assessment to the extent of Rs. 103,799. The absence of fodder is particularly felt in the Southern Division; scarcity of water is confined to a few villages.

The prices ruling are not excessively high in the affected localities, and the condition of the labouring classes is not such as to call for the interference of the State. Some public works are, however, taken in hand, and being proceeded with in the Southern and Western Divisions.

3. *Cuddapah*.—The area under "dry" cultivation has not fallen below the usual standard; but that under "wet" shows a diminution of 76,888 acres as compared with the extent cultivated in an ordinary year. The yield of the crops has not fallen below the average of former years, and remissions of assessment were found necessary only in the case of lands left waste for want of water. These amounted to Rs. 177,100*. Pasture is getting scarce, but want of drinking water is not yet felt, and the condition of the labouring classes is described as good. The prices are steady, except in the subdivision where they show an upward tendency owing to large exports of grain into Mysore.

4. *North Arcot*.—The decrease in the area of cultivation was 49,634 acres, and the estimated out-turn of the crops is from between 30 to 60 per cent. of the ordinary yield. The amount of the remissions is expected to aggregate Rs. 150,000; a general want of pasturage and scarcity of drinking water appear to have been felt for some time; but the Collector now reports a good fall of rain in various parts of the district, and the prospects seem, on the whole, to be not yet unfavourable.

5. *South Arcot*.—The worst feature of the past adverse season in this district is stated to be scarcity of drinking water, which was much felt, and the want of pasturage for the cattle. The recent fall of rain would, however, appear to have to some extent mitigated these evils, and the Local Fund Boards have been laying out funds in sinking wells where they are chiefly wanted.

There has been a decrease of 63,665 acres in the area cultivated; and about 87 per cent. of this area is estimated to have yielded a harvest. The average yield of the "wet" crops range from 50 to 75 per cent. of an ordinary harvest, and that of "dry" was about one half. The total remissions are estimated to amount to Rs. 280,000, of which a lakh and twelve thousand appertain to the single taluk of Tindivanam, which is the worst in the district, both as regards poverty of soil and absence of permanent sources of irrigation. The markets are well supplied, and exports of grain from Porto Novo and Cuddalore are reported to have exceeded those of last year by 3,000 cwts. In regard to the future prospects of the district, it is alleged that a great deal depends on the expected rains proving favourable for the kambu, which forms the staple dry crop, and on which a large portion of the population of the district subsists.

6. In conclusion, I am to state that further slight falls of rain have been reported from all these districts; but that as yet nothing certain can be predicted of the future of the coming season. Every precaution is being taken for guarding against the serious effects which a famine may produce if the current official year prove indifferent likewise, and relief works have been proposed and sanctioned for execution in the event of the necessity for providing labour to the poorer classes becoming imminent.

DESPATCH from the SECRETARY OF STATE FOR INDIA to the GOVERNMENT OF INDIA.

No. 28, 5th October 1876.

1. The Despatch of your Excellency in Council, dated 31st July, No. 13 of 1876, forwarding copies of a correspondence with the Government of Madras on the subject of the agricultural prospects in the Bellary, Cuddapah, South Arcot, and North Arcot Districts, consequent on the failure of rain in those divisions, has been considered by me in Council.

2. There has been in all the four districts a large diminution in the area of cultivation, and a necessity has consequently arisen for the grant of considerable remissions. In the Districts of Bellary, Cuddapah, and North Arcot the condition of the people forms the subject of favourable report, while in South Arcot the markets are stated to be well supplied, and the prospects of the district to be in a great measure dependent on the effect of the expected rains on the "Kambu," the staple dry crop on which a large portion of the population subsists.

3. The Government of Madras would appear to be regarding the condition of the districts with vigilant attention, and to be prepared to establish relief works should necessity arise for the provision of labour for the poorer classes.

4. I desire that I may be kept carefully informed of the progress of events in these districts.

(Signed) to SALISBURY.

No. 21 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Simla, 19th October.

1. In continuation of our telegram of this date on the subject of the scarcity which has arisen in certain parts of the Bombay Presidency, we beg to forward, for your Lordship's information, copies (as per margin) of the communications which have passed between the Governments of India and Bombay.

Letter from Government of Bombay, No. 5,243, dated the 13th September 1876, with accompaniments.

Letter to ditto, No. 350, dated the 29th September 1876.

Telegram from Governor of Bombay, dated the 3rd October 1876.

Ditto to ditto, dated the 4th October 1876.

Ditto from ditto, dated the 12th October 1876.

Ditto to ditto, dated the 16th October 1876.

Ditto from ditto, dated the 17th October 1876.

2. The communication from Bombay, dated the 13th ultimo, was the first official intimation which we received that the want of rain, which the weekly reports has indicated as being considerable in some parts of that Presidency, was likely to lead to serious distress. As only two talukas were named as requiring relief, we did not consider it necessary, in view of your Lordship's instructions regarding the localization of famine charges, to do more than refer the Bombay Government to the provision made in the provincial assignments for such emergencies, adding, however, that should the situation assume a graver aspect, we looked for timely representation of the facts, with a view to a decision as to the incidence of any further relief expenditure which might be required.

3. The telegram from Bombay of October 3rd, which pressed for a decision on a request, which had been intermediately received in the Department of Public Works, for sanction to the immediate commencement of the chord line to connect the south-east branch of the Great Indian Peninsula Railway at Dhond with the north-east branch at Munmar, was considered by us in Council. We were of opinion that we should adhere in this case to the principle which was acted on in regard to the scarcity in Behar at the end of last year, that it is not advisable that the Government should hastily commit itself to large schemes of expenditure under the pressure of an apprehended scarcity, which schemes may involve an outlay far in excess of the requirements of the scarcity, and for an object which, in a financial point of view, may not be the most useful object to which State funds might be applied. While intimating this decision to the Bombay Government, we at the same time suggested that local relief works and relief operations might be started, and indicated that the incidence of whatever expenditure might be necessary would be subsequently considered.

4. On the 13th instant we received a further telegram from the Government of Bombay, in which sanction for the commencement of the railway was again urgently solicited, and from which it further appeared that our previous communications had not been understood as conveying the permission which we intended for expenditure in excess of the resources of provincial funds, in the event of such being found to be indispensable. Our reply of the 16th instant has made the matter plain, as we are glad to learn from the further telegram from Bombay of the following day.

We have the honour to be, &c.

(Signed) H. W. NORMAN, &c.

No. 5,243, 13th September 1876.

From the ACTING CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the SECRETARY to the GOVERNMENT OF INDIA.

I am directed to forward the accompanying copies of the papers noted in the margin, relative to the insufficiency of rain in the Poona District, and to express the confidence of his Excellency the Governor in Council that the Government of India will be prepared to sanction a sufficient expenditure, if it be required, for carrying out relief operations.

2. This Government do not forget that the Secretary of State desires to localize the cost of such relief; but, bearing in mind both the absence of any scheme for giving effect to that view, as well as the enormous outlay lately incurred in Bengal, they feel confident that the comparatively trifling demand which will be made by this Presidency will be readily granted by the Government of India.

No. 74, 28th August 1876.

From the ACTING SECOND ASSISTANT COLLECTOR, POONA, to the ACTING COLLECTOR OF POONA.

I have the honour to report that, in consequence of the very slight fall of rain in the eastern talukas of the district, I made a tour through Bhimthadi and a portion of Indápur.

2. The rainfall up to date is five inches at Pátas, six at Baramatti, and four at Indápur; it has come in two falls, but the interval between was so great that the crops sown at the first fall were withered before the second.

3. The result is that throughout both talukas all the oodeed, mut, moog, and cootly are irretrievably lost, about half the bajree sown is also lost, and the remainder, consisting of that which was sown at the second fall of rain in July, will be gone too unless there is rain within the next week or 10 days.

4. This, of course, does not apply to garden lands, but even these are affected, as the small rainfall both this year and last has very much diminished the quantity of water in the wells, and consequently the notes of many wells can be worked only for half their usual time.

5. The cattle are, of course, suffering much from the want of fodder and are looking very thin.

6. Between Poona and Loni Kalbhur the crops are good, thence on to Oorulee they are fair, they are tolerable up to Yewut, where the Bhimthadi taluka commences, and from Yewut onwards through Bhimthadi and Indápur, and from Pátas through Soopa and Baramatti up to Dixal, they may almost be said to be non-existent, there being nothing but a few patches of the latter sown bajree, which at the outside may hold out another 10 days without rain.

7. Unless, therefore, we have rain in Bhimthadi and Indápur within the next 10 days the entire kharif crop, excepting in garden lands, will be lost, and about three fourths of it are lost already.

8. Matters are, however, not quite so serious as this fact might lead one to suppose. In Bhimthadi and Indápur they never do have both a good kharif and rabi crop, so that if the rabi is good the people will be no worse off than usual.

9. Of course if rain does not fall by the middle of September, the prospects of the rabi crop will be very doubtful, and matters will then become very serious indeed.

10. On Saturday the 26th there was a slight drizzle at Pátas and a smart shower at Soopa, and on Saturday a little rain (a few drops) fell at Baramatti and Indápur, the weather looked rainy, and I think there is ground for hoping that heavy rain will fall in the two talukas during this week.

11. I have told the Bhimthadi Mamlatdar to commence his local fund works on September 1st if rain has not fallen, and I have advised the Indápur Mamlatdar, Indápur not being in my charge, to do the same.

12. The amount which can be expended by the Bhimthadi Mamlatdar out of local funds during September is about Rs. 3,000. The executive engineer has also about Rs. 3,000 of local fund money to spend on works, and there is also the repairing of the Sholapur road.

13. I would propose, therefore, that the executive engineer be requested to commence his local fund works early in September if rain does not fall by the 1st.

14. These works will give employment to the ordinary labouring population, and carry them through September; but if rain does not fall by the 15th or 20th it will be absolutely necessary for Government to do something.

15. I have ascertained that there is, at the least, a months supply of grain in Bhimthadi, and three months in Indápur, probably much more in both talukas, but in any case it will never be necessary for Government to send grain there, provided the people have money to buy it. The railroad passes through both talukas, and there are good roads from the stations to most of the market towns.

16. At present grain is at 16 seers the rupee as compared with 24 seers last June. If, unhappily, there should be no rain in September, nearly the whole population of the talukas will be dependent for employment on Government, and there is not the slightest difficulty about finding the work, provided funds are available.

17. The population of Bhimthadi is 100,000, and that of Indápur 68,000, and in case of a regular famine I estimate that it will be necessary for Government to find employment for 15,000 men and 10,000 women in Bhimthadi, and 10,000 men and 7,000 women in Indápur. The wages would have to be about two annas a day per man and one anna a woman. This is, of course, an extreme case, as it is exceedingly improbable that the rabi crops in the whole of both talukas will fail.

18. As regards suitable works in case of a famine, there are 90 villages in Bhimthadi and 60 in Indápur which will be very much benefited by being cleared of prickly pear, and the average cost of clearing will be about Rs. 500 a village. Then, in Bhimthadi, a road is much wanted from Baramatti to Sangwi, the cost of which would be about Rs. 4,000. A road from Baramatti to Nimboot and one from Baramatti to Soopa would also prove very useful, and would cost about Rs. 10,000 each if done well. Most of the roads too in the taluka are susceptible of improvements, especially the road from Pátas to Soopa, and that from Pátas to Baramatti, near Rotee and Wassoondi. Then, again, there are tanks at Wudanee and Bori Bial which might be cleared out with advantage, and at Pátas there is a nulla, across which if a dam be thrown, at a cost of about Rs. 3,000, an abundant supply of good water will be obtained close to the town.

19. In Indápur, a road from the town of Indápur through Bhewreh to the Neera, costing about Rs. 10,000, would be of very great value, and has been thought of for a long time by the Local Funds Committee; a road too is required from the town of Indápur to Soogaon, and would cost about Rs. 2,000.

20. In all cases I have estimated for good roads at about Rs. 500 a mile, as half-finished roads would become in the future a very heavy burden on the local funds.

21. Very little help is to be expected from the Inamdars, the greater number of whom are involved in debt; but there are three departments which could render assistance,—the railway, the forest, and the canal.

22. It is probable that the railway authorities could find a good deal of occupation for labourers along the line in the shape of lopping trees, cutting down prickly pear, repairing walls, &c., &c., and the Forest Department might do a good deal in the way of felling trees, fencing plantations, and clearing them of prickly pear.

23. But the Irrigation Department is the one which can give us most help. The line of the canal is, I believe, finally settled as far as Yewut, and the department might be requested to push on the work as rapidly as possible; this will employ a large number of heads, and the department will gain from the fact of wages being much cheaper than they are likely to be again. At present they are two-thirds the usual rates, and will, of course, fall still further if there is no rain. Probably the line of the canal from Yewut to Wurund could be finally determined by December.

24. To summarise this long report I consider that in Bhimthadi and Indápur two thirds of the kharif crop are gone, and the remainder stands a fair chance of being lost. Should this prove to be the case, the local fund and provincial works, together with any aid the Railway, Forest, and Irrigation Departments may be able to give us, will keep the labouring class from starving through September, and if heavy rain falls during that month the rabi crop will probably be secure, and no special steps need be taken. If, however, there is little or no rain in September, it will be necessary to obtain funds from Government, and also to urge the three departments named above to help us to the best of their ability.

25. If there is no rain by the first week in September, it will, I think, be prudent to obtain provisional sanction for the expenditure of a lakh of rupees.

26. Should matters not improve, I propose going out into the districts for good at the end of September.

No. 2,016, 4th September 1876.

MEMORANDUM by the ACTING COLLECTOR OF POONA.

Forwarded to the Revenue Commissioner, Southern Division. Up to the end of last month the total rainfall registered was 5·44 at Pátas, 6·21 at Baramatti, and 4·32 at Indápur.

2. It is therefore evident that the rain which fell at Poona last week did not extend beyond the Haveli taluka, and that in Bhimthadi and Indápur the prospects are not more favourable than they were at the date of Mr. Macpherson's report.

3. From information I have received from the Mamlatdar of Indápur and the Chief Constable of Bhimthadi, I have no doubt that the poorer classes have difficulty in procuring food, and that in some cases they have been compelled to part with their cooking-pots and other articles in order to procure the necessities of life. There is, however, plenty of grain in the country, and if there should be an absolute failure of crops in the eastern districts, I do not think it would be necessary for Government to import grain.

4. As I write there is every appearance of rain, and if we should be blessed with a good fall before the 20th of this month we may still anticipate a fair rabi harvest, so that as yet I do not consider matters are by any means hopeless.

5. The local fund works in Bhimthadi and Indápur have already been started, and will give some relief. The sums available are, however, small, and the relief thus afforded will be temporary.

6. I agree with Mr. Macpherson that unless there is a sufficient fall of rain before the end of this month, it will be absolutely necessary to commence works on a much larger scale than the Local Fund Department can undertake.

7. Of the works enumerated by Mr. Macpherson, I would recommend that the following be first commenced:—

Bhimthadi Taluka.

Road from Soopa to Baramatti, probable cost Rs. 10,000. This road passes through the very centre of taluka, and would be within easy reach of most of the distressed villages.

The roads from Pátas to Supa and Pátas to Barámatti both require improvement, and Rs. 5,000 might be expended on these two works.

Many of the villages are surrounded by prickly pear, and Rs. 5,000 expended in the villages where the distress is greatest would do much good.

Indápur Taluka.

Road from Indápur to the Neera passing through Bhoweeh Rs. 10,000. This would be a most useful road, and passes through the worst part of the taluka.

Road from the ferry at Chandgáon to the Sholapur Road at Loni, distance about five miles, Rs. 3,000.

Road from Indápur to Sujáon as recommended by Mr. Macpherson Rs. 2,000.

Rs. 3,000 or Rs. 4,000 might also be expended on prickly pear clearances.

The tanks mentioned by Mr. Macpherson might be cleared out if there is not too much water, but these are works which should be left for the hot weather, if, unfortunately, it should be found necessary to continue the famine works for so long a period.

8. I agree with Mr. Macpherson that the Irrigation Department should be urged to press on the works in connexion with the canal, so as to give employment to as many hands as possible. I doubt if either the Railway or the Forest Department can afford much assistance.

9. Finally, I am of opinion that provisional sanction for the expenditure of at least Rs. 40,000 should be obtained, to be available in case rain does not fall within the next ten days.

No. 2,971, the 6th September 1876.

MEMORANDUM by W. H. HAVELOCK, Esq., REVENUE COMMISSIONER, Southern Division.

With reference to Government memorandum, No. 4,980, dated 31st ultimo, the Revenue Commissioner begs to submit letter, No. 2,016, dated 4th instant, from the Acting Collector of Poona.

2. Mr. Macpherson's report is dated 28th ultimo, and there is no improvement in the position since then; on the contrary, as so many days have elapsed without rain, the probability of any appreciable proportion of the kharif crop in the Bhimthadi and Indápur talukas being saved has become even more remote. It is almost unnecessary to state that the most recent intelligence from Pátas of yesterday's date, which has been furnished by the Collector to the undersigned, announces no rain, and marked restriction of the grain market from anticipation of failure of crops and scarcity of money. This is in accordance with the extreme poverty in some cases mentioned in the Collector's 3rd paragraph.

3. The works recommended by the Collector appear to be judiciously selected to supplement the local fund expenditure already commenced, but which will not go very far. The aggregate amount of Imperial expenditure, for which the Collector requests conditional sanction, is about Rs. 40,000, to be divided in equal proportions between the two talukas of Bhimthadi and Indápur. The Revenue Commissioner begs to support the Collector's recommendation.

4. It will be seen that Mr. Macpherson calculates that, in the event of there being famine of a serious character, the support of the poorest part of the working population in Bhimthadi will require for—

	Per mensem. Rs.
15,000 males	60,000
10,000 females	20,000
	80,000
in the Indápur taluka—	
10,000 males	40,000
7,000 females	14,000
	54,000

or an aggregate of Rs. 134,000 per mensem.

5. It is premature to do more as yet than to take a rough estimate of what expenditure might devolve on Government in case of complete failure of the rabi or second crop; but should the prospect of this very serious contingency supervene, evidently work on a large scale must be provided. The extension of the canal from the Khara Kwásla dam is suggested by the Collector, and the Revenue Commissioner has no doubt that this suggestion will be favourably considered by Government in the Irrigation Department.

6. It is understood that the line of the projected railway from Dhond to meet the North-eastern Branch Extension of the Great Indian Peninsula Railway has been surveyed. The line starts in the Bhimthadi taluka, and skirts for some distance the Sirur taluka of Poona, traversing the Shrigonda, Nagar, and Kopargaon talukas of Ahmednagar. Such a calamity as failure of the rabi, if it does take place, is not likely to be confined to the Poona Collectorate, and expenditure on the projected line in the way of cutting and embankments would, if permissible, be of great service to the inhabitants of Ahmednagar, Poona, and Sholapur.

No. 350, dated Simla, the 29th September 1876.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY.

I am directed to acknowledge the receipt of your letter No. 5,243, dated the 13th instant, forwarding copies of certain papers relating to the scanty fall of rain in the Poona District, and expressing a hope that the Government of India will be prepared to sanction a sufficient expenditure, if it be required, for carrying out relief operations.

2. In reply, I am to state that the Government of India are not prepared at present to pledge themselves to bear the expenditure which may be necessary. Should the pressure which is apprehended be, as it is hoped it will be, only of a local character and circumscribed in extent, any measures of relief which may be required will properly be a charge on provincial funds, in the assignments for which provision has been made for this class of expenditure under the head "Miscellaneous and unforeseen charges." Should the situation unfortunately assume a graver aspect, and actual famine threaten any considerable tract, his Excellency the Governor in Council will doubtless represent matters in time for a decision as to the incidence of relief expenditure to be arrived at by the Government of India.

Telegram, dated the 3rd October 1876.

From GOVERNOR, Bombay, to WORKS, Simla.

I must beg for an instant answer respecting the Dhond and Munmar Railway. The distress is very severe in those districts, and the people are becoming disorderly. Local funds are, it may be said, already exhausted. Government must help, and there is no better work on which employment can be given.

Telegram No. 352, dated the 4th October 1876.

From COMMERCE, Simla, to GOVERNOR, Bombay.

Your telegram of 3rd to Works. Governor-General in Council considers that grounds submitted do not appear sufficient to justify immediate commencement of Dhond and Munmar Railway as a relief work. Local relief works and other relief operations may be started, selecting such works as can be found near the homes of the people, in preference to committing Government to commencement of large projects. Incidence of expenditure will be considered hereafter on principles laid down in this department letter No. 350 of 29th ultimo.

Telegram, dated 12th October 1876.

From GOVERNOR, Bombay, to COMMERCE, Simla.

There has been a long discussion to-day in Council on the measures to be adopted for the relief of the distressed population. The reports are exceedingly bad. All will be forwarded immediately. The small works spoken of in your letter of the 29th have been sanctioned and are nearly done. We are unanimously of opinion that the works on the Dhond and Munmar Railway must be commenced at once. If there is not heavy rain in the course of a few days, the state of affairs will be most serious, and we must be free to deal with them at once. Local resources are virtually exhausted, and we have been compelled to-day, as a temporary expedient, to authorise each of the Collectors of Poona, Ahmednagar, and Sholapur to expend Rs. 25,000 for preserving the lives of those who may be too infirm to work and too poor to buy, as well as for payment of any employed on trifling local works.

Telegram, dated 16th October 1876.

From COMMERCE, Simla, to GOVERNOR, Bombay.

The Government of India regret to learn that the distress in three of your districts is so great, but do not think it right to authorise the commencement of so expensive a work as the railway in question, the expediency of constructing which in preference to other important lines has not yet been determined, merely to meet a temporary, though serious, emergency. Local works of a character to give employment for some months should be organised, the Government providing the necessary funds and leaving the final incidence of the charges to be settled hereafter. The district officers ought to have no great difficulty in organising such works. Your Government are authorised to incur such expenditure in providing work and relief in the distressed localities as you may consider necessary to meet the emergency, but it is not deemed advisable to embark on any large project which will involve the continuance of heavy expenditure after the emergency has ceased. The railway question must be decided on its merits from a financial and political point of view, and is not yet ripe for decision.

Telegram, dated 17th October 1876.

From GOVERNOR, Bombay, to COMMERCE, Simla.

Your telegram of yesterday received. We will do our best to give effect to instructions contained.

No. 22 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Simla, 26th October.

1. In continuation of our Despatch No. 21, dated the 19th instant, and of our telegram of the 25th, of which copy is annexed, we beg to forward, for your Lordship's information, copies (as per margin) of the communications which have since passed between the Governments of India and Bombay on the subject of the scarcity which has arisen in the latter Presidency.
 - Letter from the Government of Bombay, No. 142, C.W. 718, dated the 9th October 1876, with accompaniments.
 - Bombay Government memorandum, dated the 13th October 1876, with accompaniments.
 - Letter from the Bombay Government, No. 5,891, dated the 16th October 1876, with accompaniments.
 - Letter from ditto, No. 5,953, dated the 19th October 1876, with accompaniments.
 - Memorandum by the Hon. T. C. Hope, dated the 21st October 1876.
 - Telegram to the Bombay Government, dated the 22nd October 1876.
 - Telegram to ditto, dated the 23rd October 1876.
 - Letter to ditto, No. 923, dated the 23rd October 1876.
 - Telegram from ditto, dated the 24th October 1876.
 - Letter to ditto, No. 365, dated the 25th October 1876.
 - Telegram to ditto, dated the 25th October 1876.
2. Since we last addressed your Lordship we have received more detailed accounts from Bombay, which disclose, we regret to say, a much more extended area of distress than had at first been supposed. The whole of the nine districts of the Bombay Deccan, containing an area of 54,203 square miles, and a population of about eight millions, and yielding to Government in 1874-75 a realisable land revenue of Rs. 1,39,40,000, and an abkari revenue of about 10 lakhs, may be considered as more or less affected, the eastern talukas and districts, however, being more distressed than the western.

3. The Government of Bombay have, in accordance with the instructions received, been fully utilising all local and provincial resources, but it is now evident that these must be supplemented by considerable Imperial expenditure for both providing work and supplying food to those who cannot work.

4. In selecting works to be started for purposes of relief, we have impressed upon the Local Government the importance of preferring those which can be to a considerable degree completed within the outlay necessary for relief alone, and which will not draw large bodies of men to a distance from their homes.

5. We have approved of the desire of the Bombay Government to invite tenders for the supply of grain for relief purposes, and to abstain from making purchases in the general market on its own behalf, except in the last resort.

6. The importance in a time of famine of strengthening from the first the administrative establishments was markedly recorded in paragraph 11 of the final orders of the Government of India on the Bengal famine, dated 18th February 1875. We have consequently intimated to the Bombay Government our readiness to admit certain increases to the ordinary staff of the affected districts, and to sanction, as a temporary measure, the appointment of an additional Revenue and Police Commissioner on Rs. 3,000 per mensem. The latter measure will relieve the present Commissioner of the Southern Division, whose charge comprises 43,923 square miles, with a population of above seven millions and a half, and a revenue, including excise, of Rs. 155,95,000, by the temporary creation of a new division in the Southern Mahratta country, where the presence of a separate controlling officer appears to be indispensable.

7. We may here express our sense of the promptitude and care with which the Government of Bombay and its officers are dealing with the emergency, and the excellent spirit evinced by the more wealthy or influential members of the Native community. We have every confidence that the Bombay Government will exercise the discretion vested in them so as to prevent loss of life of Her Majesty's subjects, and without wasteful expenditure of public money.

8. In conclusion, we would invite your Lordship's attention to the accompanying telegram* from the Madras Government, informing us of the distress in Kurnool, Cuddapah, and Bellary, and other districts,

* Dated the 24th October 1876.

† Dated the 25th October 1876.

and our reply† thereto. We may add that we have reason to believe that the scarcity extends to Mysore.

We have the honour to be, &c.

(Signed) H. W. NORMAN, &c.

Telegram, dated 25th October 1876.

From PRESIDENT IN COUNCIL, Simla, to the SECRETARY OF STATE, London.

Detailed accounts from Bombays how severe distress over large portion of Khandeish and eight districts of the Deccan. Local and provincial resources being insufficient to provide work and supply food, we have again authorised such further expenditure from Imperial funds as the local Government deem indispensable for relief. We have approved of non-interference with grain trade. In order to afford due supervision for the Southern Mahratta country, we have sanctioned, as a temporary measure, the appointment of a third Revenue Commissioner. The Bombay Government is acting with promptitude and care, and the disposition of wealthy and intelligent classes in support of Government is excellent. Accounts from Madras of the condition of the Kurnool, Cuddapah, and Bellary districts most unfavourable. Local relief works have been started. It is understood that the scarcity extends to Mysore and to some other Madras districts.

No. 142 C.W. 718, dated 9th October 1876.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the GOVERNMENT OF INDIA, Public Works Department.

With reference to the telegrams noted in the margin,* regarding the distress now prevailing

*Telegram—Works, Bombay, to Works, Simla, dated 29th September.

Ditto, Governor, Bombay, to Works, Simla, dated 3rd October.

Ditto, Works, Simla, to Works, Bombay, dated 3rd October.

Ditto, Commerce, Simla, to Works, Bombay, dated 4th October.

in some of the eastern districts of the Presidency in consequence of the failure of the monsoon, I am directed to forward, for the information and consideration of the Government of India, a copy of a letter received from the Collector of Sholapur, which describes the very serious state of matters with which this Government have now to deal in the Sholapur district.

2. Returns, similar in tenor, have been and are being received from the districts of Násik, Khandeish, Ahmednagar, Poona, Kaládgi, and Dharwar, and it may be said that the whole of the eastern parts of the Deccan and the Southern Mahratta

country are threatened with a serious famine. In the parts affected nearly the whole of the monsoon crops have perished; and there have been no later rains to admit of sowing of the rabi.

3. His Excellency in Council has directed the Revenue Commissioner, Southern Division, and the Superintending Engineer, Central Division, at once to proceed to the affected districts to obtain the most reliable and the most recent information as to the condition of the country, and to be in a position to suggest to Government the best measures available for meeting the emergency which has arisen. On the receipt of the report of these officers, a copy of it will be immediately placed before the Government of India; in the meantime, in all the districts affected, this Government have authorised the immediate commencement of the works which are best calculated to afford relief, and for which projects superintendence and funds are available.

4. These works have hitherto afforded some measures of relief, and may do so for a short time longer; but it is apparent that efforts on a larger and more extended scale must very shortly be made if extreme distress and even disaster is to be averted.

5. His Excellency in Council, I am desired to say, is awaiting the receipt of a letter from the Department of Agriculture and Commerce, dated 29th September, of the despatch of which he has been advised in the telegram last quoted above, in which he understands he is to receive instructions as regards the provision of funds for famine relief works, and in respect to the incidence of the charge for such works. Some considerable outlay of Imperial money will, no doubt, be necessary; but his Excellency in Council, I am desired to say, believes that if confidence be placed in this Government all that is needed may be done without extravagant or lavish expenditure of public money, and without any great ultimate loss or waste.

No. 2,321, the 4th October 1876.

From the ACTING COLLECTOR OF SHOLAPUR to the REVENUE COMMISSIONER, Southern Division, Poona.

In my letter of 25th August last, to the address of the Chief Secretary to Government, in which I pointed out the necessity of starting famine relief works for the benefit of the people of the Kurmala Taluka of this Collectorate, I anticipated that the distress which was then beginning to be felt severely in only one taluka would soon extend to others. It has, as I have already informed you, now done so, and to such an extent that there is now no part of the district in which the condition of the mass of the people is not most deplorable; and as there is no prospect of any crop whatever throughout by far the greater portion of the Collectorate, there can be no doubt that a scarcity amounting to famine must be the result.

2. On bringing the state of affairs to the notice of Government about six weeks ago, I was, as far as aware, permitted to commence relief works in the talukas in which they were urgently required, and directed to appropriate for that purpose the local funds balance, which otherwise would have been budgetted against the expenditure in 1877-78. I was thus enabled to provide employments for some thousands of persons, who otherwise would have been reduced to the greatest extremity. The local funds balance, including the re-appropriations from local fund works, amounted to Rs. 25,000. This amount has now been expended, and I have received the permission of Government, through the Secretary to Government in the Public Works Department, to carry out, at the expense of Government, other local works that may be absolutely necessary for the relief of the people. This is now being done, and I submit herewith a list of those works for the information and sanction of Government.

3. So far all that had to be or could be done has been done, and if the rain which was pretty confidently looked for until quite recently had come to our assistance, the scarcity and distress would have been merely temporary, and we should by the present time have got over it; but unfortunately the rain held off, and if it should come now, which is not at all probable, it will be of little or no use, except in portions of one or two talukas, where the soil is exceptionally good. The result is that there has been an almost total failure of the crops throughout the Collectorate, and the cultivating classes and others, such as the Mahors, Mhangs, and Ramosees, will be without food or provision for themselves, their families, and cattle for the next 12 months, and unable to procure the barest necessities of life without the assistance of Government.

4. I believe it is in contemplation to start the Dhond and Munmar Railroad for the relief of the surrounding districts as soon as Government are fully convinced of the necessity for doing so. I would respectfully submit that the time has now come for the adoption of whatever measure Government intend to adopt for the alleviation of the distress which is now prevalent throughout the Deccan. The Dhond and Munmar Railway would, no doubt, provide employment for several thousands of people, but as it will pass through three other Collectorates in which the people will shortly be almost as badly off as the people are here, I would suggest that some other relief works should be started in this Collectorate.

5. The works now in progress, and upon which about 20,000 persons are employed, will all be completed in the course of a week or 10 days, and it is absolutely necessary that other works on a very much larger scale should take their place. The Executive Engineer is of opinion that the most suitable works would be the Barsi and Yedshi Road and the Pandharpur and Janoni Road. Both these roads would be very useful hereafter, for when they are completed there would be a first-class road from the border of the Nizam's territory on the north to the border of this Collectorate on the south, leading to the Jutt and Jamkhandi States, and thence to Satara. The plans and estimate of the Barsi Yedshi Road have been prepared and sanctioned, and there is no reason why the work should not be commenced at once if sanctioned. The greater portion of the other road has also been lined out, and the work can be commenced by the Public Works Department immediately on receipt of orders.

6. I have no hesitation in declaring that the state of this district is in every way most unsatisfactory at the present time, and it stands to reason that it must rapidly become worse. A feeling of insecurity is becoming very prevalent, and the lower classes, who naturally are the first to suffer from the effects of the general scarcity, are becoming restless and reckless. If Government would purchase grain in a cheap market and supply it at a moderate price to labourers and others, it would have a highly beneficial effect, for prices have risen considerably of late, although there is as yet no scarcity of former years grain in the district.

No. 3,340, dated Poona, the 5th* October 1876.

MEMORANDUM by the REVENUE COMMISSIONER, Southern Division.

Submitted to Government for consideration and orders.

2. It is recommended that sanction be accorded as solicited to the works included in the accompanying list from the Collector, for the carrying out of which permission has been accorded by Government through the Secretary in the Public Works Department. It is presumed that the requisite plans and estimates have been or will be furnished.

3. No specific arrangement regarding the Pandharpur Janoni Road has as yet been made by the Collector.

4. The Revenue Commissioner has consulted the Superintending Engineer with reference to the Barsi and Yedshi Ghât Road recommended by the Collector and the Executive Engineer, and Colonel Finch approves of the proposal. An estimate for this work—Rs. 1,27,655, Government Resolution No. 620 C.W. 1,544, of 26th August 1875—was submitted for sanction for bridging and metalling; but of this sum Colonel Finch considers that Rs. 30,000 could be spent on road works at the present time. It is strongly urged that this grant should be made at once; it is suited to give employment to people in the northern part of the Sholapur Collectorate.

5. The Revenue Commissioner considers that, whenever any large work is to be constructed within easy reach of a station on the Great Indian Peninsula Railway, good grain should be imported from the Central Provinces or Guzerat, where it is cheap. By this means Government will be able to apply the famine test of paying a portion of wages in grain bought at a moderate rate, and the labourers will be to a great extent saved from the danger of eating grain damaged by age, which is always produced by the storers for sale in a season of scarcity. It is, of course, of great importance to protect men assembled in large numbers from the risk of those diseases which unwholesome food is likely to engender, and which the assemblage of crowds has a tendency to propagate and render epidemic.

ADDITIONAL LIST OF RELIEF WORKS IN THE SHOLAPUR COLLECTORATE.

Pandharpur Taluka.

	Rs.
Tank at Rahatewari - - - - -	1,200
Pandharpur Poona Road, miles 14, up to Kuroli - - - - -	2,500
Pandharpur Satara Road <i>viâ</i> Bhalaoni up to the limit of the Taluka, miles 12 - - - - -	2,400
Pandharpur Karar Road, up to the limit of Tisangi Souke, miles 9 - - - - -	1,800
Pandharpur Mungalvedha Road up to the Man, miles 8 - - - - -	1,600
Repairs to the road from Toongat to Pandharpur - - - - -	2,400
	11,900

Taluka Malsiras.

Repairs to the Tank at Natepute - - - - -	2,500
	2,500

Taluka Madha.

Additional grant for the repairs to the Madha Shetphal and Madha Kurduwari Road, Rs. 500 each - - - - -	1,000
Mohol and Madha Road, 18 miles - - - - -	2,500
Mohol and Penur Road (additional) - - - - -	600
	4,100

Karmala Taluka.

Tank at Karmala - - - - -	2,500
Road from Karmala to Niluz - - - - -	1,200
Road from Karmala to Nimbgaon, 12 miles - - - - -	2,400
Nagar Road from Karmala to Jategaon (additional) - - - - -	700
	6,800

Sholapur Taluka.

Tooljapur Road, 17 miles - - - - -	2,500
Ahirwari Road, 16 miles - - - - -	2,500
Dadpur Tank clearance - - - - -	2,000
Nandni Tank (additional) - - - - -	2,500
	9,500

Sholapur, 4 Oct. 1876.

Grand Total - - - - -

34,800

MEMORANDUM by the UNDER SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, 13th October 1876.

Government having received reports from several districts of the Presidency that the partial failure of the monsoon and the very general absence of the latter rains has very seriously affected the harvest, and consequently has given rise to distress amongst the agricultural population of those parts, orders have been issued for the prosecution of relief works, and copies of these orders are now made public.

The distress still continues, and is likely to be greatly aggravated, especially if sufficient rain does not soon fall in the eastern districts. Government are now engaged in organising such further measures of relief as may be suitable and practicable, and information in respect to such measures will, from time to time, be placed before the public.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Public Works Department, dated 4th October 1876.

RESOLUTION.—In consequence of the unfavourable reports of the season in the eastern districts of this Presidency, particularly in the Sholapur, Ahmednagar, and Poona Collectories, it appears to be inevitable that famine relief works on a considerable scale must be immediately undertaken.

2. The local funds of these districts, under orders already issued, have been appropriated, and, should distress continue, nothing now remains but to provide for the relief of the people by the expenditure of Imperial funds.

3. Government have been kept informed of the state of the districts above referred to by the reports of the local officers, but having in view the increasing gravity of the situation, Government consider they should now have the benefit of the advice of their higher officers of the Revenue and Public Works Departments after these officers have personally visited the locality. Government are pleased, therefore, to direct that the Revenue Commissioner, Southern Division, and the Superintending Engineer, Central Division, should proceed at once into the affected districts, and should, after personal inquiry and consultation with the local officers, advise the Government whether it is absolutely necessary to commence any, and what, relief works on a large scale.

4. This report is required with the least practicable delay.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Public Works Department, dated 5th October 1876.

READ again—

Government Resolution No. 138 C.W.—709, dated 3rd October 1876, paragraphs 1 to 4, laying down the principles to be adopted in respect to relief works as follows:—

The principle to be adopted in respect to relief works is as follows:—

1st.—All possible re-appropriations to be made from the current year's Local Funds Budget items, irrespective of the talukwar restriction; this on the principle that the district is bound to help its own suffering people to the full extent of its ability, before indenting on the resources of other districts or parts of India.

2nd.—All balances of local funds not yet appropriated, *i.e.*, not yet budgetted against, to be made available.

3rd.—When the current year's Budget credits and the balances not yet budgetted against have been exhausted, Government will provide such other funds as may be clearly required to afford the necessary relief.

2. The necessary re-appropriation returns as regards transfers of budget credits, and appropriation returns as regards unbudgetted balances, for works undertaken under these orders, should be submitted as soon as possible, and if it is absolutely necessary to undertake any works for which there are no sanctioned estimates, estimates should be submitted to competent authority for sanction as soon as it can be done.

3. In starting relief works it should be borne in mind that the most useful works, as well as those best suited for relief, are road works and tank clearances.

4. In order, as regards road works, that the greatest ultimate benefit may be secured from the measures now to be undertaken, it should also be borne in mind that what are required are railway feeders, branch lines to existing through communication, and roads connecting market towns and centres of producing districts with other market towns, and with distant markets. The local officers should keep in view the necessity of laying out works, as far as may be, so that they may form portions of an efficient system or net-work of roads, that will enable the cultivators to convey their produce with facility to railway lines or trunk roads, and to obtain access to near or distant markets.

RESOLUTION.—As regards orders issued in reference to relief works in different districts, the following points require early attention:—

1st.—Re-appropriation statements as regards transfers of sanctioned budget credits, *i.e.*, of funds from one item to another of the sanctioned Local Funds Budget, should be prepared and submitted.

2nd.—Appropriation statements of outlay against local funds balances, *i.e.*, of the balances of local funds on the 1st of April 1876.

3rd.—Statements of relief works it is proposed to undertake from the current year's local funds revenue, in anticipation of the Local Funds Budget for the ensuing year, showing the amount required for each work.

4th.—Estimates for all works to be undertaken as relief works, for which there are no sanctions, to be sanctioned by competent authority. The estimates for such relief works, which will necessarily be of a simple character, may be rough and approximate, but it is essential that they should be sanctioned with as little delay as possible.

2. Payment to labourers on relief works may be made at such short intervals as the local officers may determine to be expedient. If advisable, it may be arranged that such payments may be made by the Civil officers on muster rolls and pay sheets kept and prepared by the Public Works officers; money to be obtained as usual on credits granted to the Public Works officers, so that the transactions may be recorded in the accounts of the Public Works Department.

3. If deemed necessary or desirable by the local officers, payments may be made partly in money and partly in grain.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Public Works Department, dated Bombay Castle, 29th August 1876.

Memorandum from the Revenue Department, No. 4,788, dated 22nd August 1876.—Transfers, for immediate consideration, a memorandum from the Collector of Dharwar, forwarding copy of a letter addressed by him to the Executive Engineer, Dharwar, requesting that officer to take early steps to commence the construction of the road between Dambal and Hesrur, for which Rs. 30,000 have been sanctioned, so as to afford immediate relief to the people in Mundargi Peta, who are suffering, not being able to gain a livelihood, want of rain having deprived them of their field labour; also a memorandum from the Revenue Commissioner, Southern Division, stating that the proceedings of the Collector seem judicious.

RESOLUTION.—A sum of Rs. 30,000 is allotted under item 48 of the Provincial Budget for the road from Gadag *via* Dambal to Hesrur, and the Superintending Engineer, Southern Division, should take steps for the immediate prosecution of the work.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Public Works Department, dated Bombay Castle, 22nd September 1876.

Memorandum from the Revenue Department, No. 5,242, dated 13th September 1876.—Transfers a letter from the Acting 2nd Assistant Collector of Poona, reporting the very slight fall of rain in the eastern talukas of the district; also a memorandum from the Revenue Commissioner, Southern Division, submitting, with his opinion, a report from the Acting Collector of Poona, recommending that the following works be first commenced, to give relief to the people of Bhimthadi and Indapur Talukas :—

Bhimthadi Taluka.

	Rs.
Road from Supa to Baramathe - - - -	10,000
Improvements on the roads from Patus to Supa, and Patus to Baramathe - - - -	5,000
Clearing prickly pear around certain villages - - - -	5,000

Indapur Taluka.

Road from Indapur to the Neera passing through Bhoweeh -	10,000
Road from the ferry at Chandgaon to the Sholapur Road at Loni - - - -	3,000
Road from Indapur to Soogaon - - - -	2,000
Prickly pear clearances - - - -	3,000
or Rs.	4,000

And adding that he agrees with Mr. Macpherson that the Irrigation Department should be urged to press on the works in connexion with the extension of the canal from the Kharakwasla dam, so as to give employment to as many hands as possible. The Revenue Commissioner remarks that, in the event of a failure of the rubber crops, expenditure on cuttings and embankments on the projected line of railway from Dhond to meet the North-east Branch Extension of the Great Indian Peninsula Railway would be of great service to the inhabitants of Ahmednagar, Poona, and Sholapur.

RESOLUTION.—These proposals are approved, and the road works enumerated may be put in hand as soon as the local officers consider that the necessity for affording relief has arisen.

2. As regards prickly pear clearance, Government consider that it would be better to expend the funds it is proposed to devote to this purpose to additional road works. The local officers should, therefore, take this point into consideration, and should propose additional road works to the extent of the outlay contemplated. Estimates for the proposed works, if not already prepared and sanctioned, should be drawn up, and should be sanctioned by competent authority with as little delay as possible.

3. All the works being local, the funds for their execution should, as far as possible, be provided by the Local Funds Committee. Formal proposals for re-appropriations necessary to cover their cost should, therefore, be submitted at once, and, if the current year's budget will not admit of the necessary re-appropriations, proposals for the appropriation of any local funds balance that may exist should be submitted.

4. Should the current year's budget, aided by the unappropriated local funds balance, not be sufficient to furnish the necessary funds to cover the contemplated outlay, Government will provide the difference from other sources, but the works should not be delayed as soon as it is determined that they are needed.

5. The papers should be transferred to the Irrigation Department as regards the proposal to proceed with the Kharakwasla Canal.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Public Works Department, dated Bombay Castle, 3rd October 1876.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,040, dated 12th September 1876. Submits a letter from the Collector and President, Local Funds Committee, Sholapur, requesting sanction to the re-appropriations, amounting in the aggregate to Rs. 25,462-10 as under, for famine relief works now being carried out in the Sholapur District. The Revenue Commissioner remarks that it is desirable that the particular works which the Collector and President proposes to undertake as famine relief works should be specified, and that estimates for such as are beyond his power of sanction should be submitted by him for the sanction of competent authority as early as practicable.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,140, dated 18th September 1876. Submits, with reference to paragraph 2 of Government Memorandum, No. 50r., dated 15th September, copy of a letter from the Collector and President, Local Funds Committee, Sholapur, forwarding a list specifying the works for which re-appropriations and appropriations from the local funds balance are required; and stating that the estimates have been called for, and will be forwarded in due course.

ITEMS requiring re-appropriation.

Head of Service.	Particulars.	Amount of proposed re-appropriation.		
		R.	A.	P.
<i>Sholapur Taluka.</i>				
Original works, } miscellaneous public im- provements -	Improving the tank at Nandani - - -	1,000	0	0
<i>Madha Taluka.</i>				
Repairs, com- munications.	Repairing the road from Mohol to Penur - -	2,160	0	0
Ditto -	Repairing the road from Madha to Kurduwari - -	1,000	0	0
Ditto -	Repairing the road from Madha to Shetphal - -	1,000	0	0
Ditto -	Repairing the road from Jarite to Bhuenj - -	500	0	0
Original works, } Miscellaneous public im- provements -	Improving the tank at Ooplai - - -	1,500	0	0
		6,160	0	0
<i>Karmala Taluka.</i>				
Ditto -	Improving the tank at Kamoni - - -	2,500	0	0
Ditto -	Improving the tank at Shetphal - - -	2,000	0	0
Ditto -	Prickly pear clearance at Jinti - - -	5,000	0	0
Repairs, Com- munications.	Repairing the road from Karmala to Jategaon - -	700	0	0
		10,200	0	0
<i>Sangola Taluka.</i>				
Ditto -	Repairing the road from Sangola to Mahud - -	1,400	0	0
<i>Malsiras Taluka.</i>				
Original works, } Miscellaneous public im- provements -	Improving the tank at Welapur - - -	2,000	0	0
Ditto -	Improving the tank at Nateputa - - -	2,600	0	0
Ditto -	Improving the dam or bandhara at Nateputa - -	1,600	0	0
Ditto -	Improving the Parwati Tank near Akluz - -	500	0	0
		6,700	0	0
Grand total		25,460	0	0

BUDGET ITEMS from which re-appropriation is proposed.

Head of Service.	Item of Budget Estimate.	Amount.		
		R.	A.	P.
	Actual local fund balance on 31st March 1876, vide Accountant-General's letter No. L. F.— 8,210, dated 2nd September 1876 - - -	23,391	4	0
DEDUCT—				
	Estimated balance on the 1st April 1876, already budgetted against in the Local Funds Budget for 1876-77 - -	6,690	0	0
		16,701	4	0

Head of Service.	Item of Budget Estimate.	Amount.		
		R.	A.	P.
Original works, Communica- tions.	Road from Karkan to the Poona-Sholapur Road near Aran, item No. 233, Part II., Local Funds Budget for 1876-77	1,800	0	0
Original works, Civil buildings.	Re-building a chauri at Kharghoti Taluka, Sholapur, Form A.	290	0	0
Ditto.	Constructing a chauri at Shirpanholi, Taluka, Sholapur, Form A.	390	0	0
Original works, Communica- tions.	Re-building a dhurmshalla at Wadakhbhal, Taluka Sholapur, included in item No. 234, Rs. 5,840, Part II., Local Funds Budget for 1876-77	300	0	0
Original works, Miscellaneous public improve- ments.	Constructing a well at Kegaum, Taluka Sholapur, included in item No. 413, Rs. 5,380, Part II., Local Funds Budget for 1876-77	540	0	0
Ditto.	Constructing a well at Shirwal, Taluka Sholapur, included in item No. 413, Rs. 5,380, Part II., Local Funds Budget for 1876-77.	990	0	0
Original works, Communica- tions.	Unpaid amount on account of a dhurmshalla at Bhondegaum, Taluka Barsi, included in item No. 234, Rs. 5,840, Part II., Local Funds Budget for 1876-77	300	0	0
Ditto.	Unpaid amount on account of a dhurmshalla at Kasari, Taluka Barsi, included in item No. 234, Rs. 5,840, Part II., Local Funds Budget for 1876-77	440	0	0
Original works, Miscellaneous public improve- ments.	Unpaid amount on account of a well at Malegoan, Taluka Barsi, included in item No. 413, Rs. 5,380, Part II., Local Funds Budget for 1876-77	300	0	0
Original works, Civil buildings.	Improving Mhars' chauri at Wirag, Taluka Barsi, Form A.	200	0	0
Ditto.	Improving a chauri at Kandalgaoon, Taluka Barsi, Form A.	200	0	0
Original works, Communica- tions.	Constructing a dhurmshalla at Mahagaon, Taluka Barsi, in- cluded in item No. 234, Rs. 5,840, Part II., Local Funds Budget for 1876-77	600	0	0
Ditto.	Constructing a dhurmshalla at Mohol Taluka Madha, item No. 231, Rs. 5,840, Part II., Local Funds Budget for 1876-77	1,220	0	0
Ditto.	Constructing a dhurmshalla at Kural, Taluka Madha, included in item No. 234, Rs. 5,840, Part II., Local Funds Budget for 1876-77	600	0	0
Original works, Miscellaneous public improve- ments.	Rebuilding Mhars' well at Madha, included in item No. 413, Rs. 5,380, Part II., Local Funds Budget for 1876-77	200	0	0
Repairs, Miscellaneous public improvements.	Repairing a well at Ooplai, Taluka Madha, Government re- solution No. 296 A.—376, dated 22nd May 1876	200	0	0
Repairs, Civil buildings.	Civil Repairing chauri at Shetphal, Taluka Madha, Form A.	200	0	0
Grand total		25,471	4	0

RESOLUTION.—The proposed re-appropriations of credits in the current year's Local Funds Budget are sanctioned, the additions to the current year's budget and appropriations against such additions are also sanctioned.

2. The sum of Rs. 5,000 entered for "prickly pear clearance at Jinti," if still available, had better be expended on road works; roads are more needed than prickly pear clearance, and the fruit of the prickly pear is understood, in some cases, to be used as food by the people.

3. The attention of both the Collector and President, and of the Executive Engineer, is called to the necessity for submitting plans and estimates for all works that may be commenced under these orders with as little delay as possible.

4. The Revenue Commissioner should ensure that a record is kept of transfers of Taluka funds owing to these re-appropriations, so that an adjustment may be made in the next or subsequent years.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Public Works Department, dated Bombay Castle, 3rd October 1876.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,209, dated 23rd September 1876.—Submits a letter from the Collector of Ahmednagar [and further correspondence], reporting that he has found it necessary to start local fund relief works for the support of the very poor in certain talukas of the Ahmednagar Collectorate, where the fall of rain has been very scanty, in the shape of road repairs, to the extent of Rs. 4,500 [for which the Collector promises to submit re-appropriation statements in due form]; stating that, if the present state of distress continues and increases it will be absolutely necessary to start works on a larger scale, and suggesting as the best [1] the railway embankment from Dhond towards Nagar and Munmar, for which a grant of Rs. 25,000 would be required from Imperial or provincial funds, and [2] the Khardi and Kashti Road, towards which a re-appropriation of Rs. 4,000 is proposed from the unexpended balances of local funds on the 31st March 1876.

The Revenue Commissioner adds that, besides the Rs. 4,000 proposed for re-appropriation from unexpended balances on 31st March 1876 towards the above road, the Acting Collector anticipates being able to obtain a sum of Rs. 10,000 for more immediately pressing wants by re-appropriation from budget items pertaining to the current year; but as the total sum thus obtained will not suffice for any lengthened period, he is desirous of obtaining a grant from provincial or Imperial funds for expenditure on famine relief works in the district; that the Collector has not yet suggested any particular work or works, nor has he yet specified any particular sum, but that in his first letter he asked for Rs. 25,000 for the railway from Dhond, and Rs. 10,000 for the Kharda and Kashti Road; and, in conclusion, points out that there are sums, as noted below, for road repairs provided in the Provincial Budget of the current year, and Superintending Engineer and Executive Engineer of Ahmednagar may be able to expedite proceedings on these works, so as to furnish early relief to some portions of the district where relief is most urgently required:—

	Rs.
Road from Ahmednagar to Ghor River - - - - -	12,000
Ditto to Dhond - - - - -	18,000
Ditto to Pimpalgaon (Malegaon Road) - - - - -	11,000
Road from Nandur-Singota to Ahmbegargaon (Násik and Poona Road) - - - - -	6,000
Road from Ahmednagar to Toka - - - - -	9,000
Road from foot of Imampur Ghât to Paithun - - - - -	10,000
Aggregating - - - - -	66,000

RESOLUTION.—The proposed appropriation against the balances of local funds on the 31st of March last is sanctioned.

2. Re-appropriation statements in regard to relief works it is proposed to undertake against sanctioned budget credits for the current year should be submitted; in the meantime the works determined on as necessary should proceed.

3. The Executive Engineer should be directed to proceed with road repairs in the Nagar District to the extent available in the current year's Provincial Budget. This balance is understood to amount to about Rs. 10,000. Should rain still hold off, and further assistance in addition to that referred to above, be needed, Government will be prepared to grant it; in the meantime, the Collector, in communication with the Executive Engineer, should determine what works it would be best to undertake, so as to be ready to commence them the moment an undoubted necessity arises.

4. As regards the Dhond and Munmar Railway, it may be advisable to commence the earth-work of this line; should relief on a larger scale be required, and the state of the surveys is such as to admit of this being done without difficulty; but this work can only be commenced as a last resource, and the Government of India should be addressed on the subject by telegram, and their permission to put the earth-work in hand should be solicited, in the event of Government being driven to this measure by the necessity of affording relief to the suffering people of the district.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Public Works Department, dated Bombay Castle, the 3rd October 1876.

Memorandum from the Revenue Commissioner, Northern Division, No. A. 6, dated 27th September, 1876.—Forwards for the orders of Government, a letter from the Collector of Khandesh, submitting an estimate by the Executive Engineer, Khandesh, of Rs. 31,005 for a tramway from Sowda town to railway station, a distance of a little over 2 miles. The work is provided under item 154, Part II. of the Local Funds Budget, with a provision of Rs. 4,400. States that the work has been put in hand in anticipation of sanction, and that as it is in the very centre of the famine stricken districts, it supplies labour for 1,000 persons. The Revenue Commissioner, Northern Division, disapproves of the work for reasons stated, and recommends instead of it that an Irish bridge be constructed over the Tapti at Bhosawal or Satara, or some place between the two; or a road from Jalgaum to Amalnair *via* Dharangaum.

RESOLUTION.—The Collector has been informed by telegram that the proposed tramway from Sowda to the railway station is not approved, but that a metalled road between these points will be sanctioned, if required, as a relief work.

2. Government concur generally with the Revenue Commissioner's remarks on this work, but the point is not now so much what particular class of work it is most expedient that the Local Funds Committee should undertake, as what work or works can best be put in hand, with a view of affording local relief.

3. The Sowda Road has already been undertaken, and has been partly completed, and if in addition other relief works are needed, the local officers should determine whether it is best to undertake, as suggested by the Revenue Commissioner, a causeway across the Tapti, in the vicinity of Bhosawal, with its necessary approaches, or a road from Jalgaum to Amalnair, or whether there is any other suitable work that it would be advisable to carry out in addition to, or in substitution for, either or both the above.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Public Works Department, dated Bombay Castle, the 3rd October 1876.

Memorandum from the Revenue Commissioner, Northern Division, No. A. 7, dated 28th September 1876.—Forwards, for the orders of Government, a letter from the Collector of Násik,

reporting the condition of several points of the Collectorate where crops have failed, and recommends the starting of the following relief works, viz. :—

1. On the Bhawadbari and Suttana Road.
2. The 3rd section of the Bhawadbari and Vinchur Road.
3. Continuation of the road to Lasalgaon or the road between Chandor and Munmar.

States that there are no plans and estimates for the last works (3). Points out that the Executive Engineer, Násik, requires additional establishment to go on with these works, and that there are no local funds balances to appropriate.

The Revenue Commissioner states that he has already supported the Collector's demand for a loan of Rs. 40,000 to enable the works proposed being carried out.

RESOLUTION.—The Acting Collector of Násik should be referred to the instructions already issued with regard to the provision of funds and the prosecution of works. These instructions state clearly that, after the current year's budget credits, and any balances that may not have been budgeted against, are exhausted, Government will grant such other sums as may be clearly necessary to give relief. These grants will be made as advances to local funds, and under these circumstances the advance of Rs. 40,000 asked for, or any other specific sum, is not required.

2. The Superintending Engineer, Northern Division, should ascertain what assistance is required by Lieutenant Hart, and should provide it by transfers from other districts where there is no pressure for relief works, or by entertaining such temporary establishments as may be available.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Public Works Department, dated Bombay Castle, the 3rd October 1876.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,224, dated 25th September 1876.—Submits a letter, with accompaniments, from the Collector of Dharwar, reporting on the distress prevailing in this district, and expresses his entire concurrence in that officer's view of the necessity to employ the people on useful works of intercommunication as early as possible; and states that it will be seen that the Local Funds Committee will devote all available local funds for expenditure of the kind "in accordance with the budget rules;" but the Collector requests that immediate orders may be given to the Executive Engineer to prepare plans for lining out the provincial road from Hubli to Kaládgi, between Hubli and Kunnur, as the line passes so directly through the length of the very distressed districts of Navalgund and Nargund, as to afford the best relief to the people; and also suggests, in the event of the distress increasing, that the question of the immediate construction of the earth-works of the railway between Bellary and the Kanara frontier be taken into consideration.

RESOLUTION.—The principle to be adopted in respect to relief works is as follows :—

1st.—All possible re-appropriations to be made from the current year's Local Funds Budget items, irrespective of the talukwar restriction; this, on the principle that the district is bound to help its own suffering people to the full extent of its ability, before indenting on the resources of other districts, or parts of India.

2nd. All balances of local funds not yet appropriated, *i.e.*, not yet budgetted against, to be made available.

3rd.—When the current year's budget credits, and the balances not yet budgetted against, have been exhausted, Government will provide such other funds as may be clearly required to afford the necessary relief.

2. The necessary re-appropriation returns, as regards transfers of budget credits, and appropriation returns, as regards unbudgetted balances, for works undertaken under these orders, should be submitted as soon as possible, and, if it is absolutely necessary to undertake any works for which there are no sanctioned estimates, estimates should be submitted to competent authority for sanction as soon as it can be done.

3. In starting relief works it should be borne in mind that the most useful works, as well as those best suited for relief, are road works and tank clearances.

4. In order, as regards road works, that the greatest ultimate benefit may be secured from the measures now to be undertaken, it should also be borne in mind that what are required are railway feeders, branch lines to existing through communication, and roads connecting market towns and centres of producing districts with other market towns, and with distant markets. The local officers should keep in view the necessity of laying out works, as far as may be, so that they may form portions of an efficient system or net-work of roads, that will enable the cultivators to convey their produce with facility to railway lines or trunk roads, and to obtain access to near or distant markets.

5. These orders should be sent to the Revenue Commissioners, Southern Division and Northern Division, and should be held to be generally applicable.

6. As regards the particular case of the Dharwar District, orders should at once be sent to the Executive Engineer to line out and be prepared to commence that portion of the Hubli and Kaládgi Road which lies in the Dharwar District, and the Government of India should be addressed by telegram as regards the commencement of the earth-works of the Bellary and Karwar Railway, should that measure, a last resource, be forced on this Government by the necessity for relieving distress.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Public Works Department, dated Bombay Castle, the 6th October 1876.

Letter from the Revenue Commissioner, Southern Division, No. 3,262, dated 27th September 1876.—Forwards correspondence with the Collector of Kaládgi relative to the employment of unexpended balances of the local funds of the Kaládgi District in useful works to be undertaken

in order to furnish employment for the poorer classes during the pressure of the present drought. Observes that each work has either a plan and estimate, or will have one, to be sanctioned by competent authority; and solicits sanction to the several works in the statement as under being undertaken in the current year as a debit to the unexpended local funds balances of the district amounting to Rs. 55,097. States that, although sanction is thus desired, a discretion will be exercised in actually carrying out the works, in due regard to their intrinsic utility and the degree of necessity for the employment of local labour.

Description.	Civil Agency.	Public Works Agency.
	Rs.	Rs.
Making a new road from Muddebihal to Alkapur - - - - -	2,000	—
„ „ „ Kaládgi to Muddebihal - - - - -	2,500	—
„ „ „ Talikoti to Sultanpur - - - - -	3,000	—
„ „ „ Bagewari to Nirgundi and Chimalgi - - - - -	1,500	—
Improving road at entrance to Mamdapur from Kakhandki - - - - -	500	—
New road from Mulwad to Ukali - - - - -	500	—
Tank at Katgeri - - - - -	2,400	—
„ at Amingad - - - - -	—	1,596
„ on the road from Bagalkot to Sirur - - - - -	1,575	—
„ at Sunag - - - - -	—	3,400
„ at Tulchigeri - - - - -	—	3,131
„ at Manur - - - - -	—	5,000
Repairs to road from Rugi to Satihal - - - - -	1,800	—
„ „ „ Sivangi to Sungthan - - - - -	1,000	—
„ „ „ Bijapur to Nagthan - - - - -	1,000	—
„ „ „ Bagewari to Kolhar - - - - -	550	—
„ „ „ „ to Mangoli - - - - -	600	—
„ „ „ „ to Huvinhippargi - - - - -	200	—
„ „ „ Indi to Manur - - - - -	500	—
„ „ „ „ to Halsangi - - - - -	800	—
„ „ „ „ to Marshauhali - - - - -	800	—
„ „ „ „ to Tambe - - - - -	475	—
Contribution to Imperial Establishment - - - - -	—	1,969
Total - - - - -	21,700	15,096

Memorandum from the Accountant General No. L. F. 9849, dated 29th September 1876—Reports that the actual balance on 1st April 1876, and the estimated receipts for 1876–77, are correctly given by the Collector and President, Local Funds Committee, Kaládgi; that he has, however, no means of verifying the estimated unexpended allotments at the close of 1876–77, and the estimated charges for 1876–77 are given by the Collector and President at Rs. 23,512 in excess of the amount originally sanctioned in the budget estimate for the current year, which cannot be accounted for.

RESOLUTION.—The propositions are approved, and sanctioned only in the event of its being absolutely necessary to undertake works of relief; and the total amount, Rs. 36,796, should be taken as an addition to the current year's Local Funds Budget.

2. The arrangement proposed is in accordance with the orders contained in Government Resolution, No. 138 C. W. 709, dated 3rd October 1876, regarding the principle to be adopted in providing funds for relief works.

3. Estimates should be submitted as early as possible for the sanction of competent authority in cases of works for which there are at present no sanctioned plans and estimates.

RESOLUTION by the GOVERNMENT OF BOMBAY, Public Works Department, dated Bombay Castle 9th October 1876.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,340, dated 5th October 1876—Submits, for consideration and orders, a letter from the Collector of Sholapur regarding famine relief works in that district. Recommends sanction, as solicited, to the works as under, to carry out which permission has been accorded by Government, through the Secretary in the Public Works Department. States that it is presumed that the requisite plans and estimates have been, or will be, furnished; that no specific arrangement regarding the Pandarpur and Janoni Road has as yet been made by the Collector; that he has consulted the Superintending Engineer with reference to the Barsi and Yedsi Ghât Road recommended by the Collector and the Executive Engineer, and Colonel Finch approves of the proposal; that an estimate for this work, Rs. 1,27,655, as per Government Resolution, No. 620, C. W. 1544, dated 26th August 1875, was submitted for sanction for bridging and metalling, but of this sum Colonel Finch considers that Rs. 30,000 could be spent on road works at the present time. Urges strongly that this grant should be made at once, as it is suited to give employment to the people in the northern part of the Sholapur Collectorate. Adds that he considers, that, whenever any large work is to be constructed within easy reach of a station on the Great Indian Peninsula Railway, good grain should be imported from the central provinces or Gujrat, where it is cheap, as by this means Government will be able to apply the famine test of paying a portion of wages in grain bought at a moderate rate, and the labourers will be to a great extent saved from the danger of eating grain damaged by age, which is always produced by the storers for sale in a season of scarcity.

Pandharpur Taluka.

	Rs.	Rs.
Tank at Rahatewari - - - - -	1,200	
Pandharpur-Poona Road, 14 miles, up to Kuroli - - - - -	2,500	
Pandharpur-Satara Road <i>via</i> Bhalani, up to the limit of the taluka, 12 miles - - - - -	2,400	
Pandharpur-Karar Road, up to the limit of Tisangi Sonke, 9 miles - - - - -	1,800	
Pandharpur-Mungalvedha Road up to Man, 8 miles - - - - -	1,600	
Repairs to the road from Toongat to Pandharpur - - - - -	2,400	
		11,900

Malsiras Taluka.

Repairs to the tank at Natepute - - - - -	2,500	
		2,500

Madha Taluka.

Additional grant for the repairs to the Madha-Shetphal and Madha-Kurduwari Road, Rs. 500 each - - - - -	1,000	
Mohol and Madha Road, 18 miles - - - - -	2,500	
Mohol and Penur Road (additional) - - - - -	600	
		4,100

Kurmala Taluka.

Tank at Kurmala - - - - -	2,500	
Road from Kurmala to Niluz - - - - -	1,200	
Ditto Nimbgaon, 12 miles - - - - -	2,400	
Nagar Road from Kurmala to Jetegaon (additional) - - - - -	700	
		6,800

Sholapur Taluka.

Tooljapur Road, 17 miles - - - - -	2,500	
Ahirwari Road, 16 miles - - - - -	2,500	
Dadpur Tank clearance - - - - -	2,000	
Nandni Tank (additional) - - - - -	2,500	
		9,500

Grand total - - - 34,800

RESOLUTION.—The famine relief works enumerated in the list submitted by the Revenue Commissioner should be put in hand whenever they are required.

2. The outlay upon them should be carried to a separate head of "Famine Relief Expenditure."

3. The papers should be transferred to the Financial Department, in order that the Accountant General may be directed to afford the Collector the necessary credit to admit of his obtaining funds.

4. Estimates should be submitted for each work as soon as possible, in order that regular and formal sanction may be accorded.

5. The provision under item 37 of the Provincial Budget for the Sholapur and Takli Road, amounting to Rs. 30,000, or so much of it as is still unexpended, should be transferred to the Barsi and Yedsi Road, for which there are sanctioned plans and estimates, the latter work being considered to be of greater service as a famine relief work than the former.

6. The Superintending Engineer should direct the Executive Engineer, in carrying out relief works, to apply the funds at his disposal, as far as possible, to earth-works on which bodies of labourers can be employed, and not upon works of construction, such as drains or bridges, which will only give occupation to a limited number of skilled workpeople.

7. The road from Pandharpur to Janoni may be added to the list of works, the commencement of which is now authorised for famine relief; but this work should not be commenced unless it is clearly needed; estimates should be submitted without delay for sanction.

8. As regards the importation of foreign grain, the proposal is one which should be considered in the General Department. In this department it is observed that transport and railway haulage over long distances will greatly enhance the cost of imported grain, and that the measure is one which does not seem necessary or desirable so long as there is grain locally available. Should it be necessary to start large concentrated famine relief works, on which large numbers of people would be employed, it might be advisable to make arrangements with the Baniyas and grain-dealers to regulate price and quality of grain, but the difficulty of supplying grain to the people over numerous scattered works by Government agency would be very great, and would render necessary a special machinery.

RESOLUTION by the GOVERNMENT OF BOMBAY, Public Works Department, dated Bombay Castle, the 11th October 1876.

Memorandum from the Revenue Department No. 5,729, dated 7th October 1876—Transfers a memorandum from the Revenue Commissioner, Northern Division, No. 5,082, dated 4th October 1876, forwarding, in continuation of his No. A.-7 of the 28th September 1876, a letter from the Collector of Nasik, stating with reference to the amounts available for re-appropriation from items of the current year's budget for the relief works which he has set going on the Niphar and Yeola Road, and on the Kappralla Ghât in Sinnar, that, in concert with Lieutenant Hart, he went very carefully through the budget provisions, and the result is that something within Rs. 3,000 can be diverted from the provisions of the budget of 1876-77 on account of works to be done by Public Works agency, and Rs. 3,388 from works to be done by Civil agency; so that in round numbers he can reappropriate Rs. 6,388 for relief works on the Niphar and Yeola Road, and at

the Kappralla Ghât; but he and Mr. Hart, and his assistants, are agreed that to do so will be detrimental to the scheme of works arranged for 1867-77; that this sum of Rs. 6,388 is not likely to suffice for the two relief works mentioned, and he still thinks it would be best to let the local funds have the loan of Rs. 40,000 he has asked for, and that he has shown how it would be repaid in 1877-78 in proportions fixed for each taluka, and he believes that the concession would do much for the road system of Násik Collectorate.

RESOLUTION.—The Revenue Commissioner, Northern Division, should be referred to Government Resolution No. 137 C. W.-708, dated 3rd October 1876, which gives the Acting Collector all the authority he is in need of; if he does not, he should state clearly in what difficulty he finds himself.

2. The intention of that resolution was to permit him to anticipate the local funds assets of 1877-78 to the extent absolutely needed for relief works in anticipation of the next year's budget. He should also be referred to clause 3, paragraph 1, of Government Resolution No. 140 C. W.-715 of the 5th October 1876.

RESOLUTION by the GOVERNMENT OF BOMBAY, Public Works Department, dated Bombay Castle, the 12th October 1876.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,230, dated 26th September 1876. With reference to Government Resolution No. 123 C. W.-672, dated 22nd September 1876, submits a letter from the Collector of Poona, reporting that no rain has as yet fallen in the eastern talukas, and applications for assistance are numerous and urgent; stating that he proposes to commence the works which have been sanctioned on the 1st October 1876; the plans and estimates for the works noted—[road from Supa to Baramati, Rs. 10,000; road from Indapur to Nira, passing through Bowra, Rs. 10,000; road from Chandgaon Ferry to Loni, Rs. 3,000; road from Indapur to Sugaon, Rs. 2,000]—having already been prepared, and those for improvements on the roads from Patus to Supa and Patus to Baramati are under preparation; that the two large works, viz., the roads from Supa to Baramati and Indapur to the Nira, will be undertaken by the Executive Engineer, who will be requested to employ every one who is willing to work, and to pay all labourers at least once a week, and the other works will be undertaken by the Mamlatdars, with the assistance of the usual Local Funds Establishment, and that Mr. Macpherson will also proceed into the district early next month to exercise a general supervision in the distressed taluks; that as Government consider that additional road-works should be undertaken in preference to prickly pear clearances, he proposes the two following roads, which he thinks will be found useful:

<i>Bhimthadi Taluka.</i>		Rs.
Road from Baramati to Sangni on the Nira	-	4,800
<i>Indapur Taluka.</i>		
Road from Kalas to Sholapur high road at Kumbhargaoon	-	3,000

Stating, with reference to the 4th paragraph of the above resolution, that the Local Funds Committee are unable to provide any portion of the funds required for the execution of the proposed works, as the unappropriated local funds balance on the 31st March 1877 is estimated to amount to Rs. 714 only; that the unexpended balance at the close of the year will, no doubt, amount to a much larger sum, but, on the other hand, if large remissions of land revenue have to be given there will be a corresponding falling off in local funds receipts; appending extracts from the Local Funds Budget of Indapur and Bhimthadi, from which it will be seen that there is no possibility of making re-appropriations, that road repairs having already been undertaken as famine works, as reported in his previous letter, and the remaining works consisting chiefly of repairs to wells and dharamsalas, &c., which it would be very false economy to postpone; that the other talukas of the district are in much the same position as Bhimthadi and Indapur, and cannot spare any portion of their local funds for expenditure elsewhere; trusting, therefore, that there will be no difficulty in providing the necessary funds from Imperial or provincial sources.

The Revenue Commissioner concurs, except that he thinks it possible a better line from Baramati might be to Moreshwar on the Nira Bridge line, which is more direct for Jejuri and Poona than Supa.

Memorandum from the Superintending Engineer, Central Division, No. 3,364, dated 5th October 1876. Forwards the above, and states that the most advantageous line for the road proposed to be constructed between Baramati and Supa appears to be that indicated in Mr. Havelock's memorandum, viâ Moreshwar, as the road will then follow for a considerable distance the beaten track communicating from Jejuri to Baramati and beyond to Pandharpur, and that he estimates relating to the following roads referred to have been prepared by the Executive Engineer, and submitted through his office to the Revenue Commissioner, Southern Division, for approval and sanction:—

1. Supa to Baramati.
2. Indapur to Nira, passing through Bowra.
3. Indapur to Sugaon.

Memorandum from the Revenue Commissioner, Southern Division, No. 3,353, dated 6th October 1876. With reference to Government Resolution No. 323 C. W.-672, dated 22nd September 1876, and in continuation of his memorandum No. 3,230 of the 26th September 1876, submits, for sanction, a letter from the Superintending Engineer, Central Division, forwarding survey plans with estimates, as follows, prepared by the Executive Engineer, Poona Districts, for constructing certain local roads in that district:

	Rs.
Estimate No. 152, for Baramati and Supa Road	9,503
" " 156, for Baramati and Moregaum Road	9,655
" " 154, for Indapur and Nira River Road through Bowra	7,190
" " 153, for Sugaon and Indapur Road	2,319

Memorandum from the Revenue Commissioner, Southern Division, No. 3,357, dated 6th October 1876. Submits a letter from the Collector of Poona, forwarding, with reference to paragraph 6

of his letter No. L. F.-699, dated 25th September 1876, for sanction, an estimate amounting to Rs. 3,000 for making special repairs to the road from Kumbhargaoon to Kalas, Taluka Indapur, and requesting early instructions regarding the source from which the cost is to be met.

RESOLUTION.—As these are all local works they are within the competency of the Revenue Commissioner to sanction, and he should sanction them accordingly. He should also issue such orders as he may think fit in regard to the alignment of the road between Baramati and Supa. It seems to be of very little consequence what particular direction the road takes; the chief object in putting the work now in hand is to afford relief, and this object should not be lost sight of while discussions are carried on regarding what is practically a very minor point.

2. As regards the provision of funds, when the local funds resources are exhausted, the requisite means will be found by Government, and the papers should accordingly be transferred to the Financial Department, in order that the Accountant General may be directed to afford the Collector the necessary credit. The expenditure should for the present be carried to a separate head of "Famine Relief Expenditure," to be hereafter adjusted.

No. 5,891, the 16th October 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY, Revenue Department, to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

I am directed by his Excellency the Governor in Council to forward the accompanying copies

Letter from the Collector of Sholapur, No. 2,321, dated 4th October 1876, to the Revenue Commissioner, Southern Division.

Demi-official letter from the Collector of Poona, to the Private Secretary to his Excellency the Governor, dated 10th October 1876.

Letter from the Revenue Commissioner, Southern Division, and the Superintending Engineer, Central Division, No. P—1, dated 10th October 1876.

Letter from the Collector of Poona, to the Revenue Commissioner, Southern Division, No. 731, dated 10th October 1876.

of the papers noted in the margin, together with copy of this Government Resolution thereon, No. 5,890, dated 16th instant, regarding the measures to be adopted for the relief of the famine-stricken population in the districts of Poona, Ahmednagar, and Sholapur, and to request that this Government may be favoured with the earliest communication of the views of the Government of India on the proposals contained in the Resolution quoted above.

2. A copy of this Government letter in the Public Works Department to the address of the Government of India, No. 142, dated 9th instant, is herewith forwarded for ready reference.

No. 2,321, dated the 4th October 1876.

From the ACTING COLLECTOR OF SHOLAPUR to the REVENUE COMMISSIONER, Southern Division, (Poona. See pp. 13, 14.)

Poona, 10 October 1876.

Demi-official from the COLLECTOR OF POONA to the PRIVATE SECRETARY TO THE GOVERNOR OF BOMBAY.

The Governor was good enough, yesterday, to ask me to put on paper the result of my observations when at Dhond last Sunday. For the first few miles beyond Poona the crops are still in the ground, but they are rapidly drying up, and, unless rain falls, cannot expect to yield any grain. They are now being cut for forage.

Beyond that distance the country is an absolute desert. Not a blade of grass nor a particle of grain is to be seen anywhere. The rivers and wells are drying up, and the cattle are dying of absolute starvation. The people are looking very thin and ill, and though there have been no deaths from starvation it is very evident that something must speedily be done to alleviate the distress. I have already received sanction to commence works, which will cost about Rs. 40,000, and these will be pushed on as fast as we can get tools and collect labourers. I fear these works alone will not be sufficient even for present requirements. In the course of a month or two other large works must be started, but they will require time and a thorough organization to get under weigh. What is wanted now is immediate assistance, and the only way this can be done is by making a grant of money to local officers to expend as they think best. This may be irregular, but I see no other alternative. I am to day writing officially on the subject, and I hope that my views will meet with the approval of Government. In a crisis like the present it is absolutely necessary to act promptly, and much must be left to local officers. If the famine unfortunately continues through the hot weather, it will be possible to establish a proper organization, but this cannot be done at once, and in the meantime people may die of starvation. If his Excellency desires any further particulars, I shall be ready to wait upon him at any time.

I have just heard of a grain riot at Sirur, owing to the grain dealers suddenly raising their prices. Of course it was promptly suppressed, without damage to person or property. The grain dealers at Sirur are more arbitrary than at other places, because they know they can rely on the Poona Horse for protection. I hope that the municipality there may equalise prices by buying grain wholesale and retailing it at cost price. I shall go to Sirur myself on Sunday for a couple of days to do what I can.

Ahmednagar, 10th October 1876.

From W. H. HAVELOCK, Esq., Revenue Commissioner, Southern Division, and Colonel A. W. H. FINCH, R.E., Superintending Engineer, Central Division, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

In accordance with the instructions conveyed in extract of Government Resolution No. A., dated 4th October 1876, we have the honour to report that we have visited the Bhimthari Taluka of the Poona Collectorate, and have passed through a portion of the Ahmednagar Collectorate, from the head-quarters of which we are now writing.

2. The Collectors of Poona and Ahmednagar, Messrs. Norman and Jacomb, met us in conference at Dhond Station on the Great Indian Peninsular Railway.

3. We are about to proceed to the Sholapur Collectorate, but we are already so impressed with the excessive character of the drought in those parts seen by us, and we are so fully convinced from various circumstances, and especially from the communications of the Collector of Sholapur, Mr. Grant, that our visit there will bring before us a still worse and more universally spread calamity, that we should consider ourselves to blame in delaying to lay the very serious nature of the case before Government, and to apply at once for relief works on a large scale.

4. Several works have been already sanctioned by Government for Poona and Sholapur, which the Collectors are, no doubt, utilising until labour on a larger scale can be found.

5. We append a statement framed in consultation with the Acting Collector, Mr. Jacomb, and his Executive Engineer, Major Manson, of works in Ahmednagar partly selected for appropriation of the provincial repair allotment, Central Division, of the year 1876-77, partly as re-appropriations from the local funds, and the remainder as sums for which we trust Government will be able to find provision from Imperial funds.

6. We have also availed ourselves of an interview with Mr. Hallum, Executive Engineer, Railway Survey, to ascertain from him the probable cost of the earth-work in cutting embankments, &c. on the projected State railway between Dhond and Munmar, and we append a separate memorandum of particulars. The estimated cost of that portion of which the survey has been completed, viz., 47 miles from Dhond to Ahmednagar, is six lakhs. We recommend this work being immediately commenced, as the only present available means of meeting the influx of labourers, who, according to the best information we can obtain, are in the east of Poona, in the greater part of Ahmednagar, and the whole of Sholapur, in enforced idleness on account of the absence of harvest, and clamorous for employment.

7. We regret to add that the very general entire failure of the kharif or early crops in the area mentioned, and the almost hopeless prospect of the rabi or later crops, are throwing on the hands of the authorities many thousands of cultivators who do not ordinarily work for labour. The rise in prices has also caused deprivation and discontent among the common people of the towns.

8. The Collectors of the three districts above named have been requested to furnish an estimate of the number of the population who may in all likelihood be thrown on the hands of Government to find labour for their support. The preparation of the estimate will probably take a little time, but for the two talukas of Bhimthari and Indápur alone, which are the worst in the Poona District, the numbers are roughly estimated at not much less than 40,000, and they may be in excess of that estimate. Unless there should be within a few days a good fall of rain to give hope of the late or rabi crops, which cannot be expected, the numbers of destitute will certainly increase, and we are prepared to find the Sholapur District alone requiring provision for a much larger crowd of human beings, who will shortly have no means of subsistence, except that provided by Government.

9. With this prospect before us we have turned attention to the inquiry when the survey of the section of the projected State railway beyond Ahmednagar will be sufficiently prepared to commence operations. We have been neutrally informed that this can be done in two months, with certain additional assistance; this section is 86 miles in length, making a total of 133 miles, and it is understood the cost of the works on which the population can be employed with advantage may be taken, inclusive of Mr. Hallum's estimate given above, at about 15 lakhs. As places better suited in regard to water supply than others for the location of large gangs of workmen we have ascertained that Dhond, Balaundi, and Ahmednagar should be selected. The Collector of Ahmednagar has, we understand from him, turned his attention to the appropriation of land for the line for which the present moment ought to be particularly favourable. Smaller gangs can be detached along the line.

10. Colonel Finch is making inquiry as regards a supply of suitable tools.

11. We hear on all sides of the great and sudden rise in prices of the staple grains. This is only what might be expected, and is in the prospect of increased scarcity to a certain extent beneficial as tending to diminish consumption. But one of the results is to throw a large supply of damaged grain into the market, which is reserved for consumption in seasons of scarcity.

This is also a beneficial provision, because it is better that a man, woman, or child, should get bad grain than none at all. But sanitation ought to be considered in a large assemblage of work-people. Disease is likely to follow the eating of bad grain, and it appears to us that Government should either allow contracts with responsible dealers to supply approved grain at specified points, at the weekly advertised rates of the head-quarter station, to all who are willing to buy, giving a "bonus" in consideration of the risk of the undertaking, or that Government should purchase large stores of good grain where it may be cheap, and import for distribution in payment or part payment. We prefer the former course, because interfering less with the markets, and saving most of the cost of establishment, which might be limited to a few inspecting officers.

12. There is a project of which the plans and estimates have been prepared and favourably regarded by the late Superintending Engineer, Central Division, Colonel Bell, but for which funds would probably not in ordinary course be provided for some time. This is the Malse Ghât, which is already tested by a trace of six feet in width throughout its length. It would open out Ahmednagar and the talukas north and east, and a portion of Poona in the direction of Bombay *viâ* Kallian. This is a work well suited for the employment of large gangs of labourers, and the only extensive work in the Poona Collectorate which we could at present bring forward with confidence. The approaches to it have already been in a measure opened out by the Local Fund Committees of Ahmednagar and Poona, and we understand that provision for a road to meet the foot of the Ghât in the Konkan is undertaken jointly by the Forest Department and the Tanna Local Fund Committee.

13. We desire this project to be considered as one of local importance, for which, with necessary improvements of the approaches on the Deccan side, we would recommend grant of one lakh of rupees. Bearing in mind the indispensable requirement of water supply for large numbers of labourers, we have made our recommendation on the assumption that the streams on the Konkan side of the Ghâts are in their ordinary state of refreshment from the rainfall of the past monsoon.

I.

STATEMENT of proposed EXPENDITURE on Famine Relief Works in the Ahmednagar District.

ALLOTMENTS AT PRESENT AVAILABLE.

	Rs.	Rs.
Bári Ghât Road - - - - -	5,000	
Repairs, provincial roads - - - - -	20,000	
Re-appropriations of grants under Collector - - - - -	5,000	
		30,000

PROPOSED EXPENDITURE.

Road from Bári Ghât to Sangamner and Kolhar - - - - -	12,000	
" " Kardeh to Kashti - - - - -	16,000	
Railway-feeder, Deksal to Rasin and Karjat - - - - -	10,000	
Subsidiary works under Collector - - - - -	10,000	
Improvements to existing local fund roads — Ahmednagar to Karmala, Ahmednagar to Anna Ghât, Kolhar to Nándur - - - - -	10,000	
		58,000
Total - - - - -		88,000

II.

MEMORANDUM of APPROXIMATE COST of earth-work and ballast in proposed line of Railway from Dhond to Ahmednagar and Munmar.

Section from Dhond to Ahmednagar, 47 miles. Survey completed and quantities of embankment and cutting taken out in statement furnished by Mr. Hallum, Executive Engineer in charge of Railway Survey - - - - -	6,00,000
Section from Ahmednagar to Munmar, 86 miles. Survey incomplete - - - - -	9,00,000
Total - - - - -	15,00,000

A. W. H. FINCH, Colonel, R.E.,
Acting Superintendent Engineer, Central Division.

No. 731, 10th October 1876.

From the ACTING COLLECTOR of POONA to the REVENUE COMMISSIONER, SOUTHERN DIVISION.

I have the honour to acknowledge the receipt of your letter No. 3364C., dated 7th instant, with accompaniment, to which I hasten to reply. The remarks of my assistants, to whom your letter will be at once sent, I propose to forward hereafter.

2. I will reply to your queries in the order in which they have been put in your letter.

A.—What number of people may eventually be dependent on Government for support should the drought continue?

At present the talukas chiefly affected are Bhimthari, Indápur, the eastern parts of Sirur, Khed and Junnar. To a slight extent Haveli and Purandar are also likely to suffer. At present I have not reason to suppose that Mawal will suffer to any great extent, though, if no rain falls, the crops will be below the average.

The population in the affected area is as follows:—

Taluka.	Population.	Affected.	Population.
Bhimthari - - - - -	115,297	the whole	115,297
Indápur - - - - -	62,392	the whole	62,392
Sirur - - - - -	76,984	one-half	38,492
Khed - - - - -	139,152	one-fourth	34,788
Purandar - - - - -	75,732	one-sixth	12,622
Haveli - - - - -	155,082	one-eighth	19,385
Junnar - - - - -	106,876	one-third	35,625
Total - - - - -	- - - - -	- - - - -	318,601

I calculate that the whole population of the affected area will never be dependent on Government for supplies of food. Many have already emigrated and more will follow. Deduction must also be made for traders, those who are well off, very young children, and the like. I therefore take one-fifth of the total population as the possible number of persons who may eventually have to be provided for. This gives a total of 63,720 souls. A labourer cannot be supported on less than four rupees a month, which would give a monthly expenditure of Rs. 2,54,880. Suppose the famine to last for six months, an expenditure will therefore be required amounting to Rs. 15,29,280.

Grain is now selling at nine seers the rupee; if that price be maintained, and the labourer be paid in grain instead of money, at the rate of one seer per man a day, the expenditure will amount in round numbers to Rs. 12,74,400.

I believe the above estimate is the very outside of the amount that may possibly be required. It must take time to organize an establishment sufficiently large to expend so large a sum, and even if my worst anticipations are realized, I do not expect that 63,720 will immediately become dependent on Government for food.

B.—What is the best organization for a work on a large scale?

I am of opinion that a large work such as a long line of road should be cut up into sections, each section under a European officer. The labourers should be arranged in gangs according to villages, so that the whereabouts of every man might be ascertained at once. Under these circumstances men and women might be allowed to work together. Sub-contracts might eventually be instituted, but not at first. Able-bodied men should have the hard work to do. Grain stores might be established, and the labourer given the option of being paid either in food or money.

C.—Should a portion of those seeking work be employed on minor operations in various parts of the country in preference to being collected on large works?

I am strongly of opinion that as many small works should be undertaken as possible. I much fear that the collection of large numbers of people in localities where they must live in great discomfort, and without shelter, may lead to the outbreak of disease, which it would be difficult to combat.

3. I have already recommended the immediate commencement of work in Indápúr and Bhimthari, at an estimated cost of about Rs. 40,000; these are now being taken in hand. Of larger works I would beg to recommend the following:—

1st. The construction of the earth-works of the proposed railway from Dhond to Manmar.

This will relieve the northern part of Bhimthari and the eastern part of Sirur and Khed.

2nd. The immediate extension of the Karakwasla Canal towards Patas, which will give employment in the worst parts of Haveli and Bhimthari.

3rd.—The improvement of the road from Ana to the head of the Malsef Ghât, and the eventual construction of the Ghât Road.

This will relieve the people of Junnar and part of the Nagar Zillar.

4. I do not anticipate very great distress in the western part of Khed, but Rs. 20,000 or Rs. 30,000 laid out in opening out the road to Bhimashankar would afford great relief to the villages on the Ghâts, and would tend to keep the hillmen quiet, who are apt to be very turbulent in times of scarcity.

5. With regard to minor works, I hope to be in a position to make further recommendations in the course of a short time. There are a few tanks which it might be advisable to clear out, and some short lines of roads which should be constructed. The work of all others which I consider best adapted for the purposes of relief is the clearance of prickly pear. This work could be carried on independently at each village. The workpeople would live in comparative comfort. They could utilize their own tools, and from a sanitary point of view the benefit to many villages would be incalculable. It is true there would not be much to show for the money spent, but the land thus reclaimed would be available for cultivation, and in many cases would realize a considerable sum. I believe this work would be more easily supervised than most others, and it would certainly be more popular, because it would not take people away from their villages. Should Government be willing to modify their opinion with regard to this class of work, I shall be prepared in a short time to submit definite proposals as to the amount which could advantageously be expended in each village.

6. Should it eventually prove necessary to establish stores of grain, I propose to utilize the dharmshalas at Khetgaon, Patas, Dhond, and Diksal as depôts. Each is large enough to contain a considerable store of grain, and all are connected by good roads with the most famine-stricken parts of the district.

The 9th October 1876.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA, Public Works Department.

With reference to the telegrams noted in the margin, regarding the distress now prevailing in

Telegram, Works, Bombay, to Works, Simla, dated 29th September.

Telegram, Governor, Bombay, to Works, Simla, dated 3rd October.

Telegram, Works, Simla, to Works, Bombay, dated 3rd October.

Telegram, Commerce, Simla, to Works, Bombay, dated 4th October.

some of the eastern districts of this Presidency in consequence of the failure of the monsoon, I am directed to forward, for the information and consideration of the Government of India, a copy of a letter received from the Collector of Sholapur, which describes the very serious state of matters with which this Government have now to deal in the Sholapur districts.

2. Returns similar in tenor have been and are being received from the districts of Násik, Khandesh, Ahmednagar, Poona, Kaládgi, and Dharwar, and

it may be said that the whole of the eastern parts of the Deccan and the southern Mahratta country are threatened with a serious famine. In the parts affected nearly the whole of the monsoon crops have perished, and there have been no later rains to admit sowing of the rabi.

3. His Excellency in Council has directed the Revenue Commissioner, Southern Division, and the Superintending Engineer, Central Division, at once to proceed to the affected districts to obtain the most reliable and the most recent information as to the condition of the country, and to be in a position to suggest to Government the best measures available for meeting the emergency which has arisen. On the receipt of the report of these officers, a copy of it will be immediately placed before the Government of India; in the meantime in all the districts affected this Government have authorised the immediate commencement of the works which are best calculated to afford relief, and for which projects superintendence and funds are available.

4. These works have hitherto afforded some measure of relief, and may do so for a short time longer; but it is apparent that efforts on a larger and more extended scale must very shortly be made if extreme distress and even disaster is to be averted.

5. His Excellency in Council, I am desired to say, is awaiting the receipt of a letter from the Department of Agriculture and Commerce, dated 29th September, of the despatch of which he has been advised in the telegram last quoted above, in which he understands he is to receive instructions as regards the provision of funds for famine relief works, and in respect to the incidence of the charge for such works. Some considerable outlay of Imperial money will, no doubt, be necessary, but his Excellency in Council, I am desired to say, believes that, if confidence be placed in this Government, all that is needed may be done without extravagant or lavish expenditure of public money, and without and great ultimate loss or waste.

Accompaniments to this letter,—

(1.) Letter from the Collector of Sholapur, No. 2321, dated 4th October 1876.

(2.) Memorandum from the Revenue Commissioner, Southern Division, No. 3340, dated 5th October 1876.

No. 5,890.

EXTRACT from the PROCEEDINGS of the GOVERNMENT OF BOMBAY in the REVENUE DEPARTMENT, dated 16th October 1876.

RESOLUTION.—On the reports received from different districts, Government have from time to time, during the last six weeks, issued orders for minor works calculated to relieve the distressed in those districts of the Presidency where the failure of the monsoon rains has caused the destruction of the crops, and deprived the agricultural population of their ordinary means of earning a subsistence. But from the information now being received, it is evident that the distress is of a wider and more serious character than was at first anticipated; and Government are therefore called upon to determine and make known the plan of operations which they will propose to the Government of India for meeting the great calamity which is impending over a very large portion of this Presidency.

2. The districts with which the Government are best enabled to deal immediately are Poona, Ahmednagar, and Sholapur. They form but a part only of the tract to which relief on a large scale must be afforded; but the principles applied to them will generally govern all the rest.

3. The Collector of Sholapur, in his letter of the 4th October, reports “there is now no part of the district in which the condition of the mass of the people is not most deplorable; and as there is no prospect of any crop whatever throughout by far the greater portion of the Collectorate, there can be no doubt that a scarcity amounting to famine must be the result.” The Collector of Poona, writing on the 10th instant, says: “For the first few miles beyond Poona the crops are still in the ground, but they are rapidly drying up, and unless rain falls cannot expect to yield any grain. They are now being cut for forage. Beyond that distance, the country is an absolute desert, not a blade of grass nor a particle of grain is to be seen anywhere. The rivers and wells are drying up, and the cattle are dying of absolute starvation. The people are looking very thin and ill, and though there have been no deaths from starvation, it is very evident that something must speedily be done to alleviate the distress.” The Revenue Commissioner and the Superintending Engineer, who had been specially ordered out by Government to report on the distressed districts, writing from Ahmednagar on the 10th instant, after passing through the Bhimthari Taluka of the Poona District, report: “We are about to proceed to the Sholapur Collectorate; but we are already so impressed with the excessive character of the drought in those parts seen by us, and we are so fully convinced from various circumstances, and especially from the communications of the Collector of Sholapur, Mr. Grant, that our visit there will bring before us a still worse and more universally spread calamity, that we should consider ourselves to blame in delaying to lay the very serious nature of the case before Government, and to apply at once for relief works on a large scale.”

4. The Collector of Poona, in a letter to the Revenue Commissioner of the 10th instant, estimates the population of those talukas which are more or less affected at 318,601. The last census gives that of Ahmednagar as 773,938, and that of Sholapur as 662,986. The total population of the districts for which Government is now endeavouring to make immediate provision, amounts to about one million and three-quarters. The Collector of Poona estimates the number of those that must be kept alive by Government at one-fifth, or over sixty-three thousand. There is little reason to believe that the proportion of the destitute in Ahmednagar will be less than that of the worst talukas of Poona. While in the case of Sholapur the Collector calculates that the cultivating classes and others, such as the Mhars, Mhangs, and Ramosis, will be without food or provision for themselves, their families, and cattle for the next twelve

months, and unable to procure the barest necessities of life without the assistance of Government.

5. It is evident that all calculations on this head must be attended with great uncertainty; but bearing in mind that the Government of India in their Despatch to the Secretary of State of the 30th January 1874, in commenting on the Bengal famine, assumed that one-tenth of the population might require relief, it seems reasonable to frame our estimate on a medium between that rate and that of the Collector of Poona, viz., one-eighth, or say two lakhs and a quarter.

6. The Collector of Poona supposes the famine may last six months. The Collector of Sholapur contemplates twelve months. It will probably be better to reckon on eight months from the 1st November, that is, up to the end of June, by which time it may be hoped that the monsoon rains of 1877 will enable the agricultural population to resume their ordinary avocations.

7. Assuming, again, that each person will require, on an average, one pound of grain per diem, and that 18 lbs. or 9 seers can be purchased for one rupee, the following will be the general result:—

$$219,440 \times 240 \div 18 = \text{Rs. } 29,25,866$$

or say 30 lakhs of rupees.

8. Such being the magnitude of the undertaking with which the Government are called upon immediately to deal, and which they much fear will form but a moderate proportion of the whole burden, they think it desirable to make known the mode of action they will recommend to the Government of India.

9. His Excellency in Council is clearly of opinion that in all cases in which, with due regard to sanitation and other local circumstances, it may be found practicable, it will be far more convenient, and in the end far more economical, to select for relief works those of considerable magnitude, which have been well examined and approved, though unavoidably postponed, on which the labour of large bodies of men can be advantageously concentrated. There may be cases in which it may be necessary to have recourse to isolated works of a trifling nature; but these should, as far as possible, form the exceptions.

10. All payments for labour employed on relief works should be paid for either in money or in grain; the officers directing the works should take no part in the provision of food.

11. Government earnestly desire to abstain from making any purchases of grain in the general market. They will only have recourse to such a step in cases where there is no supply, or where they are satisfied that the prices demanded by the dealers are extortionate and cruel, and they trust they may not be disappointed in the hope that no such necessity will arise.

12. In every case, therefore, in which it may be found necessary to undertake large relief works, the Government will, by public advertisement, invite tenders for contracts for the supply of grain to the labourers employed, at certain rates, for a term certain, at such places as may be found convenient.

13. In those cases in which the Government may be obliged to supply food to people unable to work, or to those employed on small works to which no contractors may be attached, the grain will be purchased, as far as practicable, at the contract price from the nearest contractor.

14. Government do not lose sight of the fact that, under this system, the price to be paid for grain may be high; but they believe that this may be counterbalanced by their being relieved of the obligation to provide stores and establishments for the charge and distribution of the grain, and above all by escaping the risk of accumulating supplies which may prove in the end to exceed the actual requirements.

15. His Excellency in Council has sent the following message by telegraph to the Government of India in the Revenue Department: "There has been a long discussion in Council on the measures to be adopted for the relief of the distressed population. The reports are exceedingly bad. All will be forwarded immediately. The small works spoken of in your letter of the 29th have been sanctioned and are nearly done. We are unanimously of opinion that the work on the Dhond and Munmar Railway must be commenced at once. If there is not heavy rain in the course of a few days, the state of affairs will be most serious, and we must be free to deal with them at once. Local resources are virtually exhausted, and we have been compelled to day, as a temporary expedient, to authorise each of the Collectors of Poona, Ahmednagar, and Sholapur to expend Rs. 25,000 for preserving the lives of those who may be too infirm to work or too poor to buy, as well as for the payment of any employed on trifling local works."

16. This Government have issued instructions for resuming work on the Mutha Canal, which will afford useful employment to the people of the Poona Collectorate.

17. The works enumerated in the statement No. I. attached to the letter from the Revenue Commissioner and Superintending Engineer should be sanctioned in the Public Works Department, and should be proceeded with at once.

18. His Excellency in Council abstains on this occasion from any discussion on the incidence of the cost of the contemplated operations, to which allusion is made in the letter from the Government of India of the 29th September last. By a letter from this Government, of the 7th June last, the Government of India were made acquainted with their views on the subject. The measures adopted in Bengal have established the principle that the people must be kept alive, and it is manifestly impossible to postpone affording relief until the ultimate incidence of the cost has been arranged.

19. Copies of this resolution, and of the reports on which it is founded, should be immediately transmitted to the Government of India, with a request for the earliest communication of their views on the proposals submitted.

No. 5,953, 19th October 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenues, Agriculture, and Commerce.

In continuation of my letter No. 5,891, dated 16th instant, I am directed by his Excellency the Governor in Council to forward, for the information of the Government of India, the accompanying copies of the papers noted in the margin, regarding the distress prevailing in the Satara and Dharwar Collectorates of this Presidency, and the measures adopted in consequence.

Letter from the Collector of Satara to the Revenue Commissioner, Southern Division, No. 4,347, dated 10th October 1876, with accompaniments.

Endorsement by the Revenue Commissioner, Southern Division, on the above, No. 3,440, dated 13th October 1876.

Government Resolution, No. 5,907, dated 17th October 1876.

Letter from the Collector of Dharwar, No. 3,076A., dated 7th October 1876, with accompaniments.

Endorsement by the Revenue Commissioner, Southern Division, on the above, No. 3,441, dated 13th October 1876.

Government Resolution, No. 5,906, dated 17th October 1876.

2. I am desired at the same time to transmit the accompanying copies of the Resolutions of this Government in the Public Works Department, Nos. 142 C. W.-718 and 144 C. W.-725, dated respectively the 9th and 12th instant, as also a copy of the Resolution of Government in the Financial Department, No. 4,256, dated 16th idem, instructing the Accountant General to debit all charges on account of the famine to a separate head "Famine Relief Expenditure."

No. 903, 3rd October, 1876.

From KHAN SAHEB MEHERJIBHAI KUVARJI, Subordinate Judge, Tasgaon, to the COLLECTOR and MAGISTRATE, Satara.

Though it is no part of my duty, I consider myself bound, as a public servant, to bring to your notice the following few circumstances, which my own experience and personal inquiry have enabled me to ascertain, relating to the very great suffering of the cultivating and other poor population of this large town, and the other villages of this taluka within the jurisdiction of my court, on account of want of rain this year.

It is quite justifiable to say that the little rain that fell here and there throughout the whole season was really speaking equal to no rain to produce any crops. I have been in this place since the beginning of the rainy season, and am therefore able to lay before you circumstances attending the fall of rain from the commencement. In a very few places of the taluka it fell at the commencement of the season (about the 7th or 8th June), and in other places about a month and a half after (*i.e.*, about the 26th of July). But this downpour was only sufficient for the purpose of sowing seeds in the fields. At this time most of the fields (for there are a few fields which are not sown up to this time) were sown. The rain almost entirely stopped after this, except a few momentary showers here and there, which fell at great intervals, and to no advantage to the crops. The seeds grew up as long as there was moisture in the fields, and no sooner they were dry than the growth of the crops were stopped. The consequence is, that at this time, when the crops ought to be in their full height, and healthy, and prosperous state, with ears of corn over them, they are hardly more than a foot high from the ground, and in a ruinous and dry state, with not a particle of grain over them.

Such being the state of crops the people are exceedingly alarmed; every person dreams of a famine. The grain bazaar is getting dearer and dearer every day. There are two bazaar days in this town, Monday and Thursday. On Thursday before last the rate of grain was suddenly reduced by the merchants from 3 to 2 "pailis" for the rupee. And even at this dear rate many persons were unable to get any grain in the bazaar. I had to assemble all the grain merchants in one place and persuade them to have mercy on the poor sufferers, and not to mind much about their profits. The consequence is that the same rate is retained for the last three bazaars, and the practice of the merchants of this place of buying in lump the grain that come from out-stations and then selling it in retail on profits has been discontinued for a time, to enable the poor to buy it from the out-station merchants directly at a cheaper rate. But I humbly submit that if the state of rain remains the same the bazaar will not retain its present state for many days.

It is a well-known thing in this part of the country that cultivators have no grain in store for their own provision. They produce grain, but they go to their Soucars no sooner they are ready, and almost immediately after the harvest time they are obliged to borrow either money or grain for their own support. But at this time the lenders have stopped all transactions with their customers, either in cash or grain, because they have no hope of recovering anything at the next harvest time. The same is the case with the other labouring class who are not cultivators, as every man has stopped his private works. The labourers are ready to work for the whole day for a paltry wage of 1½ annas, or even less, but they are unable to find employers. The result is that the above two classes of people have become quite supportless. They are quite unable to support themselves and their families. It is horrible to describe how many cattle they have lost. Many are obliged to abandon their cattle for being unable to feed them. For the last one week I have been hearing of instances in which people are actually starving; some living on vegetable only. Many people have become desperate, and it has therefore become a dangerous thing for a man to go from one place to another without apprehending the danger of being plundered on the road. The other day a witness who appeared to give evidence before me complained of his being plundered by two men and deprived of the only two breads he had for himself. Many such instances have come to my knowledge, and I have taken the utmost care to see that the statements are not exaggerated.

Since the 25th of the last month there has almost every day been every sign of a heavy rain. In some places there were actually some downpours, but they were too slight to be of

any use to the crops. There were two successive downpours at this place on the 26th and 27th ultimo, but each did not last for more than 10 minutes, and was to no advantage to the standing crops at all. It is said that if sufficient rain falls within the next eight or ten days, the crops in the best soil which are not quite dry will yield one-fourth part of their usual produce. But if it does not fall within the above time, then it is beyond all hopes to get anything out of the crops that are standing now. If it falls within a fortnight or so, it will be useful only for the rabi crops, the advantage of which is not to be derived before the month of April or May of 1877.

I have been able to ascertain that very few people of this taluka have some grain in store, but they apprehend famine, and are therefore unwilling to take it out for sale. The other day a Marwari took a certain amount of grain out of his store, and no sooner the Mohars and Mangs heard of it than they came in multitude of about 50 to demand grain from him. At last he was obliged to give them some (of course gratis), lest they would commit mischief and other outrages. I myself have heard many a people cry for food. Some say they are starving for two days, some for three days. If the children are fed the parents must starve.

Such is the condition of the people of this taluka, particularly the cultivators and labouring class of people. The long and short of it is, that they have neither grain nor money to buy any with, and though they are willing to work for a trifling wage there is nobody to employ them. Unless, therefore, some prompt measure be immediately taken by Government to relieve the sufferers from starvation their condition will be too hard to endure.

I am sorry to say that I have not the advantage of going round in the taluka, otherwise I would have made this report earlier. Still, whatever I have stated above is not without inquiry and satisfying myself as to its truthfulness. I have just ascertained from some merchants of this place that what grain they and other merchants have in store in the taluka is hardly enough to last for a month if freely exposed to sale. They are willing to get grain from distant parts of the country, but they are discouraged to do so on account of the dangerous state of the roads in these days.

I need hardly suggest what measure should be adopted, but if public works be commenced to enable the labouring classes to earn their livelihood, and arrangements made for the safety of grain in transit, the evil will be remedied to a great degree.

Hoping to be excused for the lengthy report.

No. 920, 8th October 1876.

From KHAN SAHEB MEHERJIBHAI KUVARJI, Subordinate Judge, Tasgaon, to the COLLECTOR AND MAGISTRATE, Satara.

With reference to my letter, No. 903, of the 4th instant, I have the honour to state that on the 5th instant, at about 2 p.m., a multitude of about 60 persons (men and children) of the village of Nimblak came to me while I was engaged in court and complained that they have been all starving, that the merchants of their village who have some grain in store have positively declined to lend them any. They further said that some of the villagers have already become deserters and gone to different directions, and the remaining have made up their minds to go wherever they like and do whatever their present condition would dictate them to do, unless the Sirkar would make some immediate handobast.

Yesterday morning also some 25 men of the village of Erandole came and complained about the same things as above stated. They say that their calamity has reached to such a height that they cannot suffer any longer; that they cannot see their children starve before their faces, and that the last thing that remains for them to do would be to throw their children into wells, and then do whatever they would be compelled to do under the present hard circumstances.

Such are the circumstances which I consider it my duty to bring to your honour's notice.

I beg humbly to submit that this place being the sadr station of the taluka, the suffering class of the people can have every excuse for coming here in a large number for the purpose of asking for relief from the Sirkar, and it is not therefore unlikely that they may commit some outrages. The police force here is comparatively too small to confront any such attempt from the desperate people. Several minor thefts and house-breakings have already been committed for the last few days. Mangs and Mohars are occasionally seen wandering in the town at unusual hours, and when they are asked the reason of doing so, they plainly say that they are starving, and so wandering for bread.

While I was writing the above, about 60 men of the village of Visapur came and complained about the same thing. It has now become a difficult thing to console such people.

It has been reported to the Chief Constable that several persons have very severely assaulted a Wani merchant of Visapur yesterday in daytime for refusing to give them grain.

Since my last report there has not been a single drop of rain, and the crops are therefore in a worse condition than before.

I have hastened to make this second report to-day, though Sunday, as I consider that such things as the above should be brought to your honour's notice without delay.

No. 4,342, 10th October 1876.

From ACTING COLLECTOR AND MAGISTRATE, Satara, to the FIRST, SECOND, and EXTRA SECOND ASSISTANT and DEPUTY COLLECTORS.

Judging from reports arriving from the districts, it appears to me that there is every chance of grain riots if some special measures are not adopted to provide the poorer classes with grain; that there is no scarcity of that article I fully believe, but evidently it is not available to the public. I have addressed Government on the subject of importing grain from Bombay, but a fortnight or more may elapse before it arrives, and meanwhile our position will be considerably worse.

2. I have written to the several municipalities in the district to suspend the duty on grain, and I have also written to Mamlatdars and others to use their influence with those who have granaries

to sell their grain to the people; but reports received to-day, especially from Tasgaon, are so distressing, that active measures must be adopted.

3. After giving the subject much anxious and serious consideration, I have come to the conclusion that we must compel those who have granaries to open them for the use of the poor. This may appear at first sight a harsh measure, and certainly it interferes with the right in private property; but I believe that the end justifies the means, and that it would simply be culpable on our part if we sit with folded hands.

4. You are now in your districts, and you will be able to judge for yourself what the real state of the poorer classes is. If it is as bad as represented, I authorise you to assemble the people who are holding back their grain, and to point out to them that if they wish to prevent serious disturbances, resulting most probably in great injury and loss to themselves and their property, they should at once place their granaries at our disposal for distribution to the starving poor. If they refuse I authorise you to take possession of the granaries, and after, with the assistance of a panchayat, fixing a fair and just valuation, to distribute it as you think fit, either by sale to those who can afford to buy, or as wages in return for labour to those who cannot afford to buy.

5. As regards the particular works on which unskilled labour can most effectively be employed, I must leave much to your discretion. I will, by the next post, send you a copy of a letter addressed by me to the Revenue Commissioner on the 7th instant, and I would add, I think, pending the sanction which I have solicited to the commencement of important water schemes, you cannot inaugurate any more useful work than digging large and deep pits or trenches on the roadsides for tree-planting and filling them up half with prickly pear and half with soil. We shall thus eradicate prickly pear, secure good pits and trenches for our roadside trees, and give really useful and profitable employment to a starving and discontented population.

6. You should, where necessary, establish about four centres in each taluka, so as to prevent the people from all congregating in one particular part.

7. I fully depend upon your good sense and zeal in carrying out these instructions, and you may, in turn, rely upon my support in strengthening your hands to the best of my power.

8. I have asked the District Superintendent of Police to place aid at your disposal in carrying out these instructions.

No. 4,347, 10th October 1876.

From the ACTING COLLECTOR AND MAGISTRATE, Satara, to the REVENUE COMMISSIONER, Southern Division.

The translations of petitions which I sent you to-day for perusal will have given you some idea of the state of these districts. I have now the honour to forward copies of two communications received from the Subordinate Judge at Tasgaon, which show that it is high time to take active measures in order to prevent the suffering poor from taking the law into their own hands.

2. The present state of affairs is clearly the result of a panic. There is, I believe, a good deal of grain in the district; but the khariff crop has failed in the east, and the continuous drought causes apprehension for the safety of the crops which have hitherto thriven and for the sowing of the rabi, and therefore those who have grain in their possession are holding it back in the hope of making a harvest.

3. But be the cause what it may, it is a fact that grain is not procurable in many places, and, as in Tasgaon the poorer classes are in desperation assuming a threatening attitude.

4. The outcry is not confined to Khatan and Man, where the crops have, we may say, failed altogether, or to Tasgaon and Khandpur, where they have suffered much; but, even in Satara and in the most fertile taluka of this Collectorate, Wahva, the poor cannot procure grain.

5. In Satara some of the respectable and most liberal-minded traders, led by Shet Durgaram, have sent money into Poona in order to import grain to sell it at cost price, including the transit charges; and the arrival of some of this grain, coupled with the temporary suspension of the municipal duty on that article, has already afforded some relief in this city; and although I have recommended the suspension of the grain duty in other municipalities, I find on calculation that it will be impossible to import grain from Poona to the east and south-east of this district and to sell it except at a high rate. I also feel that if I wait until I can make arrangements for importing grain at any price to those parts of the district much delay must occur, and that meanwhile the starving people will probably be driven to violent and lawless measures; and I have therefore assumed the responsibility of issuing instructions to the officers in charge of districts to compel such people as have granaries to place them at our disposal as the only means of affording immediate relief.

6. I append a copy of the instructions which I have issued, and I trust that Government will hold me excused for acting illegally in consideration of the urgency of the case. You will observe that I have directed my assistants in the first place to adopt persuasion, and in case of failure only to assert their authority.

7. We have, it appears to me, the choice of two evils—either to stand idly by and to see the houses and property of the merchants robbed and destroyed, or to put the law on one side, and take possession of their grain at a fair valuation, and to distribute it to the poor. In the former case the greatest mischief and trouble to all concerned will result, and in the latter the owners of grain will receive a fair profit for their goods, and their houses and other property will be safe, while the wants of the poor will be supplied until we can import grain. Taking this view of the case (the only view in which I can possibly regard it), I trust that I may be held justified in adopting the measures which I have taken.

8. Such measures can, however, only afford temporary relief, and I have now to request that Government will be so good as to make arrangements for sending grain from Bombay to Chiplun, in order to meet the pressing wants of the distant parts of these districts. I will make arrangements with the Collector of Ratnagiri to have it sent up the Kumbharli Ghât to Karad, from which place I can send it where it is required.

9. I am sorry to trouble Government in this matter, and to ask them to make these arrangements for me, but I know not to whom to apply in Bombay, and, as delay in making references may prove fatal, I trust this requisition may be complied with at once, and that I may receive an intimation to that effect. I might, it is true, procure grain from Poona, but from inquiries personally instituted in the city I find that it will be cheaper to import grain via Chiplun to the south and south-east of the district.

10. A cart is supposed to carry 6 maunds of grain. Cart hire from Poona to Satara is Rs. 7; the distance to Tasgaon is double that from Poona to Satara, so we will put that down at Rs. 14, plus the price of grain, including extra charges, Rs. 43, *i.e.*, Rs. 7 per maund, and Re 1 for extras; Rs. 57 for 6 maunds from Poona to Tasgaon.

11. By Chiplun the following would be the calculation:

	R.	A.	P.
Water carriage for 6 maunds from Bombay to Chiplun	-	1	2 0
Cart hire from Chiplun to Tasgaon	-	8	0 0
Price of grain	-	42	0 0
Total	-	51	2 0

or Rs. 5.84 less per cart-load.

12. As a commencement, I think grain worth Rs. 5,000 will suffice, and I will regularly report progress.

13. There is no prospect of rain at present, although it is anxiously expected. If rain falls prices will fall, and there will be hope for a rabi crop; but the season for sowing rabi has already far advanced, and if rain is withheld great despondency will succeed the present anxiety.

14. You will be glad to hear that the temporary suspension of the municipal tax on grain has already had its effects. Private traders are bringing in grain and selling it at a fair price to the public. I was at the bazaar this morning when they were commencing to sell at 8 seers per rupee. I have had a good deal of conversation with the merchants of this city lately, and I must say the disposition is to help the poor; they wish to make a little profit and to sell grain to the people at cheap rates. As far as Satara is concerned, I think we have secured a fair supply of grain now, and I can also feed Khandala, Koregaon, Wai Janli, Khatan, and Man from Poona; but it is for the distant talukas that I wish to import grain, as they have not the same facilities as we have at Satara.

No. 3,440, 13th October 1876.

MEMORANDUM by the REVENUE COMMISSIONER, Southern Division.

Submitted to Government.

2. As the Collector explains in his 9th paragraph that he has a difficulty in applying to agents for grain in Bombay, the Revenue Commissioner respectfully supports the request in paragraph 12, that Rs. 5,000 worth of grain* should be supplied via Chiplun for distribution as wages or part wages to labourers, or to be otherwise applied at the Collector's discretion; the value to be accounted for.

* The Collector does not specify the kind. Jawari would be preferable, but if not obtainable at moderate price, then bajri would be taken. That grain is just now very cheap in Gujrat.

The amount, however, appears inadequate.

3. The Revenue Commissioner regrets that he cannot add his approval of the measure reported by the Collector of "issuing instructions to the officers in charge of districts to compel such people as have granaries to place them at our disposal as the only means of affording immediate relief." The best feature in the measure is the option given to the grain holders to voluntarily place their property at the disposal of the authorities, because though it is obvious that the panchayat valuation is not that which the grain storer wishes to realise, yet he may perhaps set against the loss of profit avoidance of the risk of holding on when the popular feeling is irritated, and the expropriation might take place in a still less unceremonious manner, with the addition of personal violence.

4. There is apparently a complete failure of the early or kharif crop in Khatan and Man talukas, and more than a partial one in Tasgaon and Khandpur, the Satara Mangs and Ramosis are also a turbulent race, but there is at least as bad a failure in Pandarpur and Sangola taluka of Sholapur, from which district the Revenue Commissioner is now writing, and a more than partial failure in Malsiras. The two first-named talukas formerly belonged to Satara, and Malsiras was transferred only last year; yet no such measure has been ever recommended for those districts.

5. It appears to the undersigned that though there may be much suffering already among the poor of the talukas in Satara under consideration from the failure of the renewal of supply to which they ordinarily look at the season of harvest, yet that the amount in store has been underrated. The simple and judicious measure of suspending the municipal octroi on grain at Satara has, Mr. Moore reports, made the grain pass from the shops. The similar instructions to other municipalities will probably have a similar effect, not perhaps to last very long, unless rain should fall.

6. If there are any serious grounds for the apprehension expressed, the Revenue Commissioner thinks the proposed amount of importation of grain by Chiplun quite insufficient, and would recommend its being quadrupled. No doubt, though not precisely so stated, the maund to which Mr. Moore's recommendations refer is the Satara maund of 12 local pails, or 48 local seers, which would probably represent about 130 lbs. each, instead of the maund of 82 lbs. used in Government statistics. Between 300 and 400 cart loads of grain which, at the prices mentioned, Rs. 20,000 would represent, would not have the effect of a glut on any one of the talukas in the condition described.

7. With regard to the taking possession of the grain dealer's property, except in case of a desire to seek protection, the undersigned would be prepared to peremptorily prohibit any further proceedings of the kind ; but the question is respectfully left for the consideration and orders of Government.

RESOLUTION by the GOVERNMENT OF BOMBAY, Revenue Department, No. 5,907, dated Bombay Castle, the 17th October 1876.

MEMORANDUM from the Revenue Commissioner, Southern Division, No. 3,440, dated 13th October 1876, submitting, with his remarks, a letter, No. 4,347, dated 10th idem, from the Collector of Satara, with its accompaniments, relative to the distress prevailing in that Collectorate and the measures proposed for its relief.

RESOLUTION.—A grant of Rs. 25,000 has already been made, under conditions which have been communicated to the Collector.

2. Steps have been taken to countermand the instructions issued by Mr. Moore in respect to interfering with the free action of the dealers.

3. There is no reason to suppose there is a scarcity of grain in the country ; and Government are most averse to import on their own account, or otherwise interfere with the natural course of trade.

No. 3,076A., 7th October 1876.

From the COLLECTOR OF DHARWAR to the REVENUE COMMISSIONER, Southern Division.

I have the honour to submit copy of my letter No. 3,053, dated 6th instant, to the Executive Engineer for Irrigation, as also copy of his reply.

2. I would request that Mr. Palliser may receive early orders for the immediate commencement of the three works mentioned in his 3rd paragraph.

3. As regards the Doni tank work, that project necessitates a great deal of skilled labour, and therefore, as a famine relief work, is not so desirable as the Dambal tank work, which will have more earth-work.

4. A very large body of distressed villagers are employed on the Dambal and Hasrur Road, and by the end of this week the number of persons employed will have (I am told by the Engineer Department) reached the large number of about 3,000 people.

5. Yesterday I met Colonel Greig, and we arranged for such re-appropriations in the Local Funds Budget as were feasible, and I am about to submit a letter on this subject.

6. As the relief works now absolutely required to keep people from starving are extending, and the number of people on the Hasrur Road is very large, I have issued orders, in concurrence with the views of Colonel Greig, to introduce the famine test of part grain payments. We have determined to pay part wages in grain, at the rate of $\frac{1}{2}$ Dharwar seer (equal to a seer of 80 tolas) of jawari to each single man per diem, and 1 Dharwar seer (equal to 2 seers of 80 tolas) to each man with a family. The grain we can, by buying it wholesale, purchase cheaper than the people can buy it retail, and we shall serve it out at our purchase rate. I have directed that the grain distribution or payments shall be made by the Mamlatdar every Sunday morning.

7. It may be necessary to ask Government to relieve the Mamlatdar of his magisterial duties, and to appoint an extra first Karkun. This course has, I hear, been adopted in all the talukas of the Bellary Collectorate, Madras Presidency, the Mamlatdars being employed specially in matters connected with the present distress.

8. The Dambal and Hasrur Road work cannot last very long, and we must have some other properly prepared work on which to proceed in the Gadag taluka as soon as the Hasrur Road work comes to an end.

9. I beg, therefore, with reference to paragraph 4 of the letter of Mr. Palliser, Executive Engineer for Irrigation, that he may at once be directed to resubmit the plans and estimates of the Dambal tank scheme, which, from there being much earth-work, is one admirably suited for a relief work.

10. In calling upon Mr. Palliser to hasten the Savanur tank project, as the work is required as a relief work in that State, he has stated in his No. 1,725, dated 6th instant : "The delay has been unavoidable owing to the insufficiency of my establishment." I beg that the establishment of the Executive Engineer for Irrigation may be temporarily strengthened, as at this juncture time is everything, and the want of a sufficient establishment must not be allowed to delay the preparation of projects on which funds can be expended for the relief of the people.

11. Now that works are being vigorously prosecuted, the want of establishment is most seriously felt. Colonel Greig yesterday complained severely of it, and I hope that Government will be pleased to place a sufficient extra strength of supervisors at the Superintending Engineer's disposal, to allow of his being able to meet our necessities.

No. 3,053, 6th October 1876.

From the COLLECTOR OF DHARWAR to the EXECUTIVE ENGINEER FOR IRRIGATION, B. and Dharwar.

I have the honour to request you will inform me what estimates you have prepared, as also for what works you have sanctioned plans and estimates.

2. The road work from Hasrur to Dambal is progressing rapidly, and funds will soon be expended. It is now therefore necessary to look to new works to aid the people.

No. 1,715, 6th October 1876.

From the EXECUTIVE ENGINEER FOR IRRIGATION, B. and Dharwar, to the COLLECTOR OF
DHARWAR.

In reply to your letter No. 3,053 of this date, I have the honour to report in detail on the subject, as it appears you wish the information for the whole district, and not for any one taluka.

2. The Doni tank estimates, amounting to Rs. 89,114, have been sanctioned by this Government, but in consequence of financial difficulties the Government of India excluded the work from this year's budget. In April last the Chief Engineer for Irrigation said that "possibly after" the rains provision might be made for the work by re-appropriation." If it were necessary to start the work as a relief to the people, funds would, I think, probably be available; but a reference from you would be desirable.

3. Below are named three sanctioned works, which I have authority to proceed with immediately after the rains:

Work.	Taluka.	Amount of estimate.
		Rs.
Repairs and improvements, Mavinkop tank	Dharwar	10,000
" Ditto ditto Yelvigi tank	Bankapur	9,200
Repairs, Tilavalli tank	Hangal	5,350
Total	—	24,550

4. The Dambal tank estimates, amounting to Rs. 40,000, have been returned to me for reconsideration. Some further survey is necessary; but if you should contemplate urging this work as a relief work, I shall be obliged by your letting me know, so that I may do my best to send in the estimates for immediate sanction.

5. The estimates for the Medhri tank, taluka Ranibennur, are in abeyance pending a reply to a reference to you on the subject: vide my No. 1,332 of the 1st August last. These estimates could, if necessary, be pushed on and sanction be obtained by December. The work would be effective as a relief work.

6. The Hirekerur tank work, taluka Kod, will in all probability be sanctioned in a week or two. The amount will be about Rs. 10,000.

7. There are other works the estimates of which are in hand, but I cannot give you such certain information with regard to them as on those enumerated above.

No. 3,441, 13th October 1876.

MEMORANDUM by the REVENUE COMMISSIONER, Southern Division.

Submitted for the early consideration and orders of Government.

2. The Collector's present proposal relates principally to the question of finding employment for the people on works of irrigation. The Dambal tank scheme is represented to be specially adapted, as supplying a large quantity of earth-work, to the present emergency. The undersigned accordingly strongly supports the recommendation in paragraph 9 of the Collector's letter.

3. Attention is also invited to the representations in paragraphs 10 and 11, regarding the insufficiency of the establishments under the Executive Engineer for Irrigation, as well as the Executive Engineer of the district.

4. Regarding the subjects mentioned in paragraphs 5 and 7, the Collector's reports, when received, will be laid before Government for consideration in the departments to which they relate.

5. The steps taken by the Collector, as reported in his 6th paragraph, appear very suitable under the circumstances, and are recommended for approval.

RESOLUTION by the GOVERNMENT OF BOMBAY, Revenue Department, No. 5,906, dated Bombay Castle, 17th October 1876.

MEMORANDUM from the Revenue Commissioner, Southern Division, No. 3,441, dated 13th October 1876, submitting, with his remarks, for the early consideration and orders of Government, a letter No. 3,076 A., dated 7th idem, with its accompaniments, from the Collector of Dharwar, containing his proposals for finding employment for the people on works of irrigation, and for the relief of the distress prevailing in that district.

RESOLUTION.—Government understand that the Dambal tank can be commenced at once as a relief work. Instructions should therefore be communicated by telegraph from the Public Works Department.

2. The steps the Collector of Dharwar is taking regarding the construction of the Dambal and Hasrur Road are approved.

3. The Collector should be informed that Government is most anxious to avoid buying grain in the general market, and desires to obtain contracts for the supply to labourers on large works. Further instructions will be sent to him on this head.

4. The Government of Madras have been asked by telegraph to inform this Government of the measures of relief that are being adopted in Bellary.

RESOLUTION by the GOVERNMENT OF BOMBAY, Public Works Department, No. 142 C. W.—718, dated Bombay Castle, 9th October 1876. (See p. 22.)

RESOLUTION by the GOVERNMENT OF BOMBAY, Public Works Department, No. 144 C.W.—725, dated Bombay Castle, the 12th October 1876.

MEMORANDUM from the REVENUE COMMISSIONER, Southern Division, No. 3,230, dated 26th September 1876.

With reference to Government Resolution, No. 123 C. W.—672, dated 22nd September 1876, submits a letter from the Collector of Poona, reporting that no rain has as yet fallen in the eastern talukas, and applications for assistance are numerous and urgent; stating that he proposes to

	Rs.
Road from Supa to Baramati - - -	10,000
Road from Indapur to Nira, passing through Bowra - - -	10,000
Road from Chandgaon Ferry to Loni - - -	3,000
Road from Indapur to Sugaon - - -	2,000

commence the works which have been sanctioned on the 1st October 1876; the plans and estimates for the works noted in the margin having already been prepared, and those for improvements on the roads from Patas to Supa, and Patas to Baramati, are under preparation; that the two large works, viz., the roads from Supa to Baramati

and Indapur to the Nira, will be undertaken by the Executive Engineer, who will be requested to employ every one who is willing to work; and to pay all labourers at least once a week, and the other works will be undertaken by the Mamlatdars, with the assistance of the usual Local Funds Establishment, and that Mr. Macpherson will also proceed into the districts early next month to exercise a general supervision in the distressed talukas; that, as Government consider that additional road works should be undertaken in preference to prickly pear clearances, he proposes the two following roads, which he thinks will be found useful:—

Bhimthadi Taluka.

	Rs.
Road from Baramati to Sangui on the Nira - - -	4,800

Indapur Taluka.

Road from Kalas to Sholapur high road at Kumbhargaoon - - -	3,000
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Stating, with reference to the 4th paragraph of the above resolution, that the Local Funds Committee are unable to provide any portion of the funds required for the execution of the proposed works, as the unappropriated local funds balance on the 31st March 1877 is estimated to amount to Rs. 714 only; that the unexpended balance at the close of the year will, no doubt, amount to a much larger sum, but, on the other hand, if large remissions of land revenue have to be given, there will be a corresponding falling off in local funds receipts; appending extracts from the Local Funds Budget of Indapur and Bhimthadi, from which it will be seen that there is no possibility of making re-appropriations, the road repairs having already been undertaken as famine works, as reported in his previous letter, and the remaining works consisting chiefly of repairs to wells and dharamshalas, &c., which it would be very false economy to postpone; that the other talukas of the district are in much the same position as Bhimthadi and Indapur, and cannot spare any portion of their local funds for expenditure elsewhere; trusting, therefore, that there will be no difficulty in providing the necessary funds from Imperial or provincial sources.

The Revenue Commissioner concurs, except that he thinks it possible a better line from Baramati might be to Moreshwar on the Nira Bridge line, which is more direct for Jejuri and Poona than Supa.

MEMORANDUM from the SUPERINTENDING ENGINEER, Central Division, No. 3,364, dated 5th October 1876.

Forwards the above, and states that the most advantageous line for the road proposed to be constructed between Baramati and Supa appears to be that indicated in Mr. Havelock's memorandum, via Moreshwar, as the road will then follow for a considerable distance the beaten track communicating from Jejuri to Baramati, and beyond to Pandharpur, and that the estimates relating to the following roads, referred to, have been prepared by the Executive Engineer, and submitted through his office to the Revenue Commissioner, Southern Division, for approval and sanction:—

1. Supa to Baramati.
2. Indapur to the Nira, passing through Bowra.
3. Indapur to Sugaon.

MEMORANDUM from the REVENUE COMMISSIONER, Southern Division, No. 3,353, dated 6th October 1876.

With reference to Government Resolution No. 123 C. W.—672, dated 22nd September 1876, and in continuation of his memorandum No. 3,230, of the 26th September 1876, submits, for sanction, a letter from the Superintending Engineer, Central Division, forwarding survey plans, with estimates, as follows, prepared by the Executive Engineer, Poona District, for constructing certain local roads in that district:—

	Rs.
Estimate No. 152, for Baramati and Supa Road - - -	9,503
" " 156, for Baramati and Moregaon Road - - -	9,655
" " 154, for Indapur and Nira River Road through Bowra - - -	7,190
" " 153, for Sugaon and Indapur Road - - -	2,319

MEMORANDUM from the REVENUE COMMISSIONER, Southern Division, No. 3,357, dated
6th October 1876.

Submits a letter from the Collector of Poona, forwarding, with reference to paragraph 6 of a letter No. L. F.—699, dated 25th September 1876, for sanction, an estimate amounting to Rs. 3,000, for making special repairs to the road from Kumbhargaoon to Kalas, taluka Indapur, and requesting early instructions regarding the source from which the cost is to be met.

RESOLUTION.—As these are all local works they are within the competency of the Revenue Commissioner to sanction, and he should sanction them accordingly. He should also issue such orders as he may think fit in regard to the alignment of the road between Baramati and Supa. It seems to be of very little consequence what particular direction the road takes; the chief object in putting the work now in hand is to afford relief, and this object should not be lost sight of while discussions are carried on regarding what is practically a very minor point.

2. As regards the provision of funds, when the local funds resources are exhausted the requisite means will be found by Government, and the papers should accordingly be transferred to the Financial Department, in order that the Accountant General may be directed to afford the Collector the necessary credit. The expenditure should for the present be carried to a separate head of "Famine Relief Expenditure," to be hereafter adjusted.

RESOLUTION by the GOVERNMENT OF BOMBAY in the Financial Department, No. 4,256, dated
Bombay Castle, the 16th October 1876.

Resolution of Government in the Public Works Department, No. 142, C.W.—718, dated 9th October 1876. Transferring a memorandum from the Revenue Commissioner, Southern Division, No. 3,340, dated 5th October 1876, together with a letter from the Collector of Sholapur regarding famine relief works in that district; and requesting that the Accountant General may be directed to afford the Collector the necessary credit to admit of his obtaining funds to carry on the works enumerated therein.

Letter from the Accountant General, No. R.-10,490, dated 12th October 1876, stating with reference to the above resolution that the sum of Rs. 34,800 has been placed to the credit of the Collector of Sholapur, by telegram, to the debit of Famine Relief Expenditure, in accordance with paragraph 3 of the resolution quoted, and soliciting the necessary sanction for the same.

RESOLUTION.—The Accountant General is to be informed that the Government of India are being kept informed of all expenditure that is being incurred to meet this emergency, and he is to be directed to open a separate head of "Famine Relief Expenditure," to which all charges of this nature that have been and may be sanctioned should be debited.

2. On the question of importing grain, Government are most averse to interfere with the course of trade, and cannot sanction any such measure as that proposed by the Collector, unless it is satisfactorily proved that there is a positive scarcity of the article. If it should be found necessary to undertake relief works on a large scale then it will probably be advisable to invite tenders for the supply of grain for the maintenance of the labourers.

NOTE ON the CONDITION and RESOURCES of the DISTRICTS in the BOMBAY PRESIDENCY
which are threatened with SCARCITY.

Simla, October 21, 1876.

1. THE following particulars on this subject may be found useful for reference.

2. The official communications which have been received in this Department from the Bombay Government up to the present date do not go further than to report distress in the Poona, Ahmednagar, and Sholapur districts. But from the accompaniments to a resolution of the Bombay Government, dated October 13th, which was published in the Bombay daily papers of the 14th, it appears that relief works have been also sanctioned in the districts of Khandesh, Násik, Kaládgi, and Dharwar, and the weekly "season and crops" telegrams, especially those published in to-day's Gazette, show serious distress in Satara and Belgaum likewise.

3. The whole of the nine districts of the Bombay Deccan, containing an area of 54,203 square miles and a population of 7,966,061 persons, and yielding in 1874-75 a realisable land revenue of Rs. 1,39,40,000 and an abkari revenue of about ten lakhs, may therefore be considered as more or less affected. The Bombay Government say, in a letter dated the 9th instant, that "in the parts affected nearly the whole of the monsoon crops have perished, and there have been no later rains to admit of sowing the rabi." The telegram published to-day says, "No improvement in the prospects of the Deccan and the Southern Mahratta country, where famine relief works have been started. Distress general, and scarcity widespread in those parts."

4. Of Khandesh we only know that Sowda, a town and railway station on the eastern side of the district, near the Bhosawal junction of the Berar and Jubbulpore lines, is said by the Collector to be "in the very centre of the famine-stricken districts," and that the local government have sanctioned a road there as a relief work. The telegram published to-day, moreover, says, "Crops in the same bad state as before; prices rising rapidly; scarcity of grass felt in the eastern and central talukas; water supply decreasing generally."

5. Regarding Násik, it appears from official documents that the crops have failed in "several points of the Collectorate." Privately, I learn that the crops have failed in three talukas, that others will follow unless a little rain fall, and that such scarcity is anticipated "that it will be difficult to get any revenue collected." I presume this refers to the talukas where the crops have failed. Relief works have been started in two talukas, but no definite grants have been made. The Bhils are uneasy.

6. The condition of Poona is that two talukas are most seriously affected, and all the others are more or less so. The Collector states that "the rivers and wells are drying up, and the cattle are dying of absolute starvation. The people are looking very thin and ill," &c. It is estimated that one-fifth of the whole population, or 63,000, will have to be fed by Government for several months. The people are said to be "becoming disorderly," and one riot has occurred. The famine is worst in the talukas where the riots occurred last year. Numerous works from local and provincial funds have been started, and Rs. 25,000 have been separately sanctioned "for preserving the lives of those who may be too infirm to work and too poor to buy," &c. The Government have also ordered the recommencement of the works of the Mutha Irrigation Canal.

7. Ahmednagar also is a district in which riots occurred last year. Its condition appears to be nearly as bad as that of Poona. Works to the extent of Rs. 66,000 have been sanctioned out of the provincial budget, in addition to others regularly provided for out of local funds. A special grant of Rs. 25,000 has also been made, as in Poona. The Dhond and Munmar Railway was urged on the Government of India, with the view of giving relief to the three Collectorates of Poona, Ahmednagar, and Násik, which it would traverse in a direction corresponding generally with the most distressed talukas.

8. Sholapur is a peculiarly poor and bare district, which has suffered from drought on more than one previous occasion. It is reported that "there is now no part of the district in which the condition of the mass of the people is not most deplorable; * * * there is no prospect of any crop whatever throughout by far the greater portion of the Collectorate." Local and provincial funds are being taxed to the utmost here, as elsewhere, and a special grant of Rs. 25,000 has been sanctioned, as in Poona.

9. Kaládgi is a poor district, lying along the eastern border of the Presidency between Sholapur and Dharwar. Very little appears to have been done about or for it, but the Collector, in a private letter dated the 13th instant, tells me that "there is apparently no chance of rain now. The kharif here has, almost without an exception, withered away, and the rabi is not even sown."

10. Dharwar.—Two talukas are said officially to be "very distressed," and the local and provincial funds are being exhausted before other relief is given. The Collector has been holding a public meeting and forming a committee of Europeans and natives to assist him—chiefly, it would appear, against a combination of the grain dealers, who are said to be withholding grain from the market. He stated that the relief works already sanctioned were to cost a lakh and a half. Dharwar is a district which profited enormously during the high prices of cotton, and the people have, no doubt, a fair amount of money in hand. The difficulty of Dharwar, Kaládgi, and the adjacent Belgaum will probably be from a want of grain, as these districts have no railway communication, and are cut off by the Gháts from the sea. The telegram in to-day's "Gazette" says, "Crops worse than last week; distress increasing; price of grain rising."

11. Regarding Belgaum nothing has come from the Bombay Government, but the telegram published to-day runs thus, "No rain at Belgaum, but slight showers on the 16th in the neighbourhood; accounts from all talukas very gloomy; kharif crops have entirely failed in Gokole, Athni, and in part of Chikori, and

" little hope of their surviving in other parts ; great mortality of cattle in northern talukas ; prices of grain continue to rise."

12. Of Satara, also, nothing has been said yet by the Local Government, but the telegrams for some time past have indicated approaching distress. Last week the report was, " Rain urgently wanted ; scarcity of pasture severely felt ; prices of grain risen high ; distress among poor people." The telegram of to-day says, " Want of rain severely felt throughout the district ; distress general."*

13. The Bhils, Mangs, Ramoosees, and similar classes who inhabit the Ghât talukas of Násik, Poona, and Satara, and are to be found in parts of Ahmednagar, are not those who will sit down and die. They are naturally predatory, and have risen more than once within my recollection, with fatal results.

14. I have collected a few of the leading statistics of the districts affected, with the view of giving some idea of their respective extent and resources, the means and classes of the population, and the Government revenues involved. The figures are taken from the census of 1872 and the Bombay Administration and Jamabandy Reports. The subjoined table gives the principal features of the population.

DISTRICTS.	Area in Square Miles.	Population.	Population per Square Mile.	Per-centage on Total Population.		Per-centage on Adults.		Per-centage of Proprietors on Total Persons engaged in Agriculture.
				Of Inhabitants of Houses of better sort.	Of Inhabitants of Houses of inferior sort.	Agriculturists.	Non-agriculturists.	
Khandesh - -	10,162	1,028,642	101·22	6·54	93·46	32·86	67·14	83·63
Násik - - -	8,140	734,386	90·22	5·84	94·16	30·74	69·26	87·03
Ahmednagar - -	6,647	773,938	116·43	7·88	92·12	35·67	64·33	82·52
Poona - - -	5,099	907,235	177·92	7·78	92·22	38·87	61·13	91·21
Sholapur - - -	3,925	662,986	168·91	6·12	93·88	26·03	73·97	65·85
Kaládgi - - -	5,695	816,037	143·27	·64	99·35	33·54	66·46	34·42
Satara - - -	5,378	1,116,050	207·52	4·08	95·92	34·86	65·14	95·88
Belgaum - - -	4,591	938,750	204·44	4·91	95·09	32·95	67·05	32·29
Dharwar - - -	4,564	988,037	216·44	1·89	98·11	33·76	66·24	26·03
Total - - -	54,203	7,966,061	—	—	—	—	—	—

The variations in all these particulars between one taluka and another are, of course, very considerable. But the inferiority and comparative poverty of the whole Deccan may be inferred from the fact that in Gujrat the population is 279 to the square mile, and 23 per cent. of them live in houses of the better sort. The three southern districts are remarkable for the larger size of holdings, subordinate to which there are from 40 to 45 per cent. of tenancies.

15. The following statement gives the land in acres, the proportion of it, and consequently of the revenue from it, in which Government is directly interested, and the incidence of the Government assessment. The latter is a fair measure of the fertility and resources of the several districts.

DISTRICTS.	Area in Acres.	Per-centage.		Per-centage of Government Land occupied on Total Government Arable Land.	Gross Land Revenue, 1874-75.	Land Revenue realisable by Government, 1874-75.	Incidence per Acre per Annum of Government Revenue on Revenue-paying Cultivated Area.			Abkari Revenue, 1873-74.
		Of Government Land.	Of Inam Land.				R.	A.	P.	
Khandesh - -	6,505,202	92·69	7·31	50·59	Rs. 33,30,798	Rs. 30,21,890	1	2	10	Rs. 2,13,605
Násik - - -	3,503,518	91·13	8·87	78·71	14,95,211	11,67,169	0	10	5	65,824
Ahmednagar - -	4,073,229	84·68	15·32	96·07	16,32,730	13,30,602	0	7	5	22,745
Poona - - -	3,265,542	80·15	19·85	97·66	15,44,238	12,83,771	0	7	9	1,59,962
Sholapur - - -	2,495,904	86·36	14·64	99·90	12,60,537	10,44,010	0	6	9	46,801
Kaládgi - - -	3,645,363	68·36	31·64	96·26	15,84,925	12,18,256	0	5	9	1,32,643
Satara - - -	3,401,690	68·71	21·29	96·96	24,19,489	16,53,136	0	10	10	27,320
Belgaum - - -	2,880,848	59·91	40·09	91·27	17,76,646	12,59,977	1	1	10	1,27,455
Dharwar - - -	2,903,442	69·53	30·47	92·13	23,84,048	19,60,635	1	2	4	2,20,366
Total - - -	32,674,738	—	—	—	1,74,28,622	1,39,39,446	—	—	—	10,16,821

It would, of course, be premature to estimate how much of the revenue may be

* Since the above was written an official letter has been received from the Bombay Government, reporting serious distress in the district, and apprehension of disturbances.

lost. But in the scarcity in Khandesh in 1871-72, which was apparently lighter than the present, the loss was nearly four lakhs, or one-eighth.

DISTRICTS.	Total Number of Horses, Ponies, and Mules.	Total Number of Oxen, Cows, Bulls, and Buffaloes.	Total Number of Sheep and Goats.
Khandesh -	14,561	615,783	199,524
Násik -	13,619	517,658	260,506
Ahmednagar -	18,851	537,100	413,457
Poona -	11,879	513,594	280,436
Sholapur -	4,288	371,661	265,812
Kaládgi -	9,785	524,342	283,279
Satara -	14,534	570,018	437,188
Belgaum -	6,613	398,588	209,636
Dharwar -	6,867	541,287	199,189
Total -	100,997	4,589,971	2,549,027

17. The following statement gives the crops cultivated in 1874-75 upon the Government land only.

PRODUCTS.	Khandesh.	Násik.	Ahmednagar.	Poonah.	Sholapur.	Kaládgi.	Satara.	Belgaum.	Dharwar.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Rice -	16,471	25,517	8,473	39,940	20,516	5,687	18,565	69,251	90,896
Cotton -	553,949	15,753	48,063	15,772	48,733	234,527	20,522	93,252	283,810
Jawari -	427,466	67,700	647,744	599,086	990,674	1,185,237	216,457	433,861	497,312
Bajri -	558,249	663,574	923,186	581,684	349,831	234,494	494,202	78,068	6,126
Wheat -	129,651	177,158	141,046	65,249	39,079	92,424	31,200	36,713	112,169
Sugar cane -	2,589	7,600	3,764	3,814	3,059	2,445	10,703	4,604	2,909
Pulses -	129,192	140,667	—	—	72,195	—	136,012	99,178	—
Gram -	—	—	87,040	40,442	47,845	—	—	—	23,411
Til and other oil seeds -	175,690	139,340	9,463	35,024	2,994	14,930	—	36,327	29,647
Linseed -	—	—	1,236	—	24,568	23,198	755	42	9,766
Miscellaneous products	83,738	170,004	288,518	296,721	220,746	191,863	512,153	131,827	295,281
Land lying fallow, or grass land -	232,885	212,779	273,814	228,149	128,123	50,666	254,348	136,891	182,869
	2,385,885	1,620,092	2,432,347	1,905,881	1,947,863	2,035,471	1,694,917	1,120,014	1,532,396
Deduct land twice cropped -	2,844	7,297	—	21,202	18,712	809	44,906	5,257	2,165
Remainder -	2,383,041	1,612,795	2,432,347	1,884,679	1,929,151	2,034,662	1,650,011	1,114,757	1,530,231

The foregoing statement shows how largely all the districts are dependent upon kharif crops, such as rice, bajri, and jawari, which are very generally reported to have almost entirely failed. Jawari is in some districts to a considerable extent cultivated, as rabi also. The statement in the margin for the same year further illustrates the subject, and shows how little aid the cultivation receives from artificial means of irrigation.

DISTRICTS.	RICE LANDS.				Total.
	Irrigated Garden Lands.	Dry-Crop Lands.	Irrigated from Tanks, Water Courses, &c.	Unirrigated or wholly dependent on the Fall of Rain.	
Khandesh -	Acres. 31,352	Acres. 2,343,697	Acres. —	Acres. 2,375,049	
Násik -	41,368	1,557,438	—	13,994	1,612,801
Ahmednagar -	33,934	2,394,506	—	3,912	2,432,354
Poona -	32,566	1,824,926	—	27,187	1,884,679
Sholapur -	55,605	1,871,112	—	2,452	1,929,170
Kaládgi -	6,072	2,026,424	1,409	761	2,034,668
Satara -	48,836	1,586,161	19	14,398	1,650,015
Belgaum -	7,660	1,054,087	9,906	43,126	1,114,779
Dharwar -	4,234	1,439,383	59,662	26,956	1,530,235
Total -	261,627	16,097,734	70,996	133,386	16,563,750

—	Area in Square Miles.	Population.	Total Revenue.
Satara Jagirdars -	1,950	300,870	Rs. 8,16,970
Akalkot -	498	81,068	2,28,500
Kolapur -	3,184	802,691	24,29,000
Southern Mahratta Jagirdars -	2,734	610,434	14,90,000
Savaur -	70	17,288	50,429
Total -	8,536	1,812,351	50,14,899

to a considerable extent responsible for dealing with it.

19. In conclusion, it may be mentioned that the weekly telegrams (1) from the Central Provinces report rise of prices in one district owing to exports to Bombay; (2) from Madras, indicate a certain amount of distress, except in Malabar; and (3) as to Mysore and Coorg, state as follows: "Failure of expected rain most disastrous to such crops as had survived drought; distress among people and cattle already acutely felt; prices rising everywhere; markets only moderately supplied; the condition of the country is most critical."

T. C. HOPE.

Telegram, 22nd October 1876.

From the SECRETARY, Department of Revenue, Agriculture and Commerce, Simla, to the CHIEF SECRETARY TO GOVERNMENT, Bombay.

The President in Council requests that all communications relating to the scarcity may be addressed to this Department; also that no communications to the Government of India on the subject may be made public until the answers have been received, but there is no objection to publication of periodical narratives of the condition of the several districts, and of relief operations actually sanctioned. Indeed such publication is desirable. His Honour wishes to receive, at the earliest practicable date, separate statements regarding each taluka in the districts of Ahmednagar, Khandeish, Nasik, Poona, Satara, Sholapur, Kaladgi, Belgaum, and Dharwar, showing its area, population, government, realizable revenue in 1875-76, rough proportion of kharif to rabi cultivation, average annual rainfall, actual rainfall this season, ordinary price of staple food of the taluka at this season, actual present price of the same, probable extent of failure of crops, and amount, if any, sanctioned for relief works and other relief. These statements may be prepared from the best materials now available to Government, and corrected or supplemented afterwards, and should be forwarded as they can be got ready.

Telegram No. 921 A.—G., 23rd October 1876.

From the GOVERNMENT OF INDIA, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Yours of 9th October, enclosing letter from the Collector of Sholapur, is transferred to Department of Agriculture and Commerce, to which Department of the Supreme Government that of Bombay will for the future address direct on all matters touching the initiation of measures for relief of famine, limiting the correspondence between this Department and that of the Works in Bombay to the usual professional and other details, after the orders of the Government of India have been issued through the Agriculture and Commerce Department, on the policy on action to be taken and on the projects of works approved for execution. Letter follows.

No. 923 A.—G., 23rd October 1876.

From the GOVERNMENT OF INDIA, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

I am directed to acknowledge receipt of your letter No. 142 C. W., dated 9th October 1876, forwarding copy of a letter received from the Collector of Sholapur, describing the state of distress in his district which has to be met by Government, and in reply to say that the further report promised on the subject will be awaited.

2. I am at the same time to request that, apart from the professional or ordinary departmental customs involved in reference to special or ordinary works, which should be dealt with in the usual way, all references to the Government of India in regard to the initiation of works undertaken as famine work may, with a view to consistent action, be submitted through the Department of Revenue, Agriculture, and Commerce.

Telegram, 24th October 1876.

From GOVERNOR OF BOMBAY TO COMMERCE, Simla.

This Government is grateful for the support given by the Government of India in their telegram of the 16th instant, without which they would not hope to contend with success against the present difficulties. They are preparing complete statements of the works sanctioned for the relief of the population in the distressed district, together with full statistical information, and all shall be sent with an explanatory map, as soon as possible. The impression gains ground that the proportion of the population to be employed or relieved will much exceed the calculation given in our resolution of the 16th. Rain is reported by telegraph to have fallen at Dharwar, Belgaum, and Kaládgi. Effect on crops not yet stated.

No. 365.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY.

Simla, 25th October 1876.

I have had the honour to receive your letter No. 5,891, of the 16th instant, with accompaniments, which concludes with a request for the earliest communication of the views of the Government of India on the proposals contained in the Resolution of the same date, and also your letter, No. 5,953, of the 19th instant, giving particulars regarding the distress in the Satara and Dharwar Collectorates. The letter of the Secretary to the Bombay Government in the Public Works Department, No. 142 C.W.—718, dated the 9th instant, has also been transferred to this Department. A memorandum in the Public Works Department, dated the

13th instant, communicating various documents, including the letter of the 9th instant, to the public press, which has not been forwarded to the Government of India, but which appeared, with its accompaniments, in the "Times of India" of the 14th instant, further illustrates the views and proceedings of the Bombay Government in connexion with the prevailing and anticipated scarcity in certain districts.

2. His Honour the President in Council has perused with much concern the accounts contained in these papers of the serious calamity which appears to be impending over a large portion of the Presidency of Bombay.

3. In Khandeish it would appear that in the eastern and central talukas the crops have suffered severely, a scarcity of grass is felt, the water supply is generally decreasing, and a rapid rise of prices is taking place. Regarding Násik, it is understood that the crops have failed in at least three talukas, that the sowing of rabi is doubtful, unless some rain should fall soon, and that the Bhils have shown symptoms of uneasiness.

4. In the district of Poona the Collector estimates that all the talukas will be more or less affected, and that one-fifth of the whole population, or 63,000, may have to be fed by Government for several months. The people are reported to be "thin and ill," and also to be "becoming disorderly." The adjacent district of Ahmednagar appears, from the report of the Revenue Commissioner and the Superintending Engineer, whom you have deputed on a special tour of inquiry, to be in a nearly similar condition. The condition of Sholapur is evidently somewhat worse than that of either Poona or Ahmednagar, and the various reports submitted afford full confirmation of the statement that the "condition of the mass of the people" is "most deplorable," and that "there is no prospect of any crop whatever throughout by far the greater portion of the Collectorate."

5. Distress in the Satara Collectorate appears to have been only very recently brought officially to notice, but to be severe in some parts, while the peculiarities of the district, in being less accessible to relief by rail and road and in the large number of the population belonging to the predatory classes, will necessitate special care in its administration. Regarding Belgaum no special communication has yet been received from the Bombay Government, but it is stated in the last weekly telegram that the kharif crops have already failed in three talukas, that the accounts from other parts are very gloomy, and that there is great mortality of cattle in the northern part of the district.

6. The districts of Kaládgi and Dharwar remain to be noticed. Regarding the former no specific official representation has reached the Government of India, but it is understood that the kharif has very generally failed and the rabi is unsown. The pooriness of the district will, no doubt, tend to make all losses felt with special severity, while its remoteness from the railway and the sea will render relief unusually difficult. Of Dharwar it is known that two talukas are suffering severely, and that others are little better. Here, as in certain other parts, enhanced prices are observable, which are probably aggravated by the comparative inaccessibility of the district.

7. It thus appears that the area over which serious scarcity extends to a greater or less degree consists of Khandeish and eight of the districts of the Bombay Deccan, containing an area of 54,203 square miles, and a population of about eight millions, and yielding in 1874-75 to Government a realizable land revenue of Rs. 1,3940,000, together with an abkari revenue of about ten lakhs. But the fact must not be overlooked that, in addition to the above, which is British territory, there are encircled by and interlaced with it numerous Native States, comprising a total area of about 8,536 square miles, with a population of fully 1,800,000, and an estimated revenue of about 50 lakhs of rupees. Of the condition of these States the Government of India have received no information, but it is probably not materially different from that of the surrounding British territory, and as several of the States, including Kolapur, are at present under British management during the minority of the Chiefs, the responsibility of dealing with it will, to a considerable extent, fall upon Government.

8. For the alleviation of distress the Bombay Government were, in the first instance, on the basis of such limited information as was then before the Government of India, requested on September 29th to make full use of the local and provincial funds; but, on the receipt of further particulars, full authority was conveyed in the telegram of the 4th instant from this Department for the starting

of whatever relief works or relief operations the Governor in Council might consider necessary, and the question of the incidence of the expenditure was reserved for future consideration. The Government of Bombay have, in accordance with these instructions, been very fully utilising all the local resources, and have also made to four districts special grants of Rs. 25,000 each. But as it is now evident that considerable Imperial expenditure will be required, both in providing work, and in supplying food to those who cannot work, I am directed to communicate the following remarks as to the nature of the works and other measures which may most usefully be undertaken.

9. With regard to the proposed Dhond and Munmar Railway, to which further reference is made in the accompaniments to your letter of the 16th instant under reply, I am to state that the decision of the Government of India is contained in the telegram of the same date from this Department. In the construction of railways in India, it is absolutely necessary that each project should be taken up in succession, in the order of its necessity as compared with others, that no projects should be undertaken under present financial circumstances which cannot be depended on eventually to return full interest on the outlay, and that only so many should be in hand at one time as the borrowing powers of the State permit. In works designed to afford relief during scarcity, moreover, it is now an established principle that those ought to be selected, as far as practicable, which can be completed, or far advanced towards completion, by the outlay which the scarcity demands. Testing the Dhond and Munmar Railway project by the above conditions, the information at present before the Government of India does not appear to justify the immediate commencement of the line, while the relief outlay which it would provide would bear a very small proportion to the entire expenditure which it would involve, and would be confined to a comparatively small area of the affected tracts.

10. His Honour the President in Council trusts that the Government of Bombay will apply these principles, as far as they are applicable, to all projects which may be suggested to them for commencement at the present juncture. The prominent position held by tank clearances, and repairs or improvements of existing roads, among the works which, as appears from the accompaniments to the memorandum of October 13th above referred to, have been sanctioned by his Excellency the Governor in Council, is entirely in accordance with these principles. The remarks of the Collector of Poona as to the inexpediency of collecting large gangs away from their homes on large works have the full concurrence of the Government of India. How far the sums which have been sanctioned for new roads will go towards their completion, instead of leaving them to be for years a burden on local and provincial funds, does not appear from the correspondence. But the commencement of so expensive an undertaking as a new ghât from the Deccan to the Konkan, which is proposed in joint report of Mr. Havelock and Colonel Finch, would probably be unadvisable.

11. With regard to the various general measures which may be adopted for relief in times of scarcity, some of which are discussed in the Resolution of the 16th instant which accompanies your letter, I am directed to invite the attention of his Excellency the Governor in Council to the Resolution of the Government of India of February 18th, 1875, which was published in the "Gazette of India" of the 26th idem, and specially to paragraphs 9, 11, 14, 20, and 23.

12. While organizing suitable relief works, attention will, no doubt, be given to ascertaining, as far as possible, the extent of the grain reserves existing in each district, and how far they are being, or are likely to be, supplemented from without by private enterprise. This inquiry appears to be of special importance in the case of Satara and the Southern Mahratta country, the people of which are probably, on the one hand, better able to afford to purchase grain than those of the poorer districts further north and east, but, on the other, are less likely to obtain grain to purchase, owing to the absence of railway communication, and the difficulties of getting supplies up from the sea. The President in Council cordially approves of the decision to invite tenders for the supply of grain to persons employed on works and to those needing to be fed, as also that the Government should abstain from making purchases in the general market on its own behalf, except in the last resort.

13. The President in Council has observed with much satisfaction the efforts which have been made in some parts by the more wealthy or influential native

gentlemen for the relief of their suffering countrymen, and the support which they have given to the measures of the district officers, and to the endeavours of the latter to allay panic, and he trusts that every scope will be afforded to such benevolent dispositions, whether in the formation of central and local relief committees to superintend the distribution of food, or in the raising and application of private subscriptions to specific charitable purposes, such as might be held to be beyond the scope of the action of Government.

14. The importance of strengthening the administrative establishments of the affected districts will not have escaped his Excellency the Governor in Council, and is a prominent feature in the Resolution of the Government of India, which is referred to in paragraph 11. The creation of an additional Revenue and Police Commissionership in the Bombay Presidency, in order to reduce the present divisions, has been urged by the Bombay Government on the Government of India at various times since the year 1867, and was sanctioned by that Government and the Secretary of State in 1868, but was subsequently held in abeyance for reasons which need not be recapitulated. In August last the Government of India intimated their willingness to accede to the proposal, provided corresponding reductions could be effected. Since that date it has been represented to the Government of India that by a redistribution of charges in connexion with the sanction of an additional commissioner, a better control over the excise revenue, and a corresponding increase in its amount might probably be attained. At the same time it seems probable that the present Revenue and Police Commissioner of the Southern Division will be especially unable in a time of famine to exercise due control, and to afford to the Government the necessary information in a charge comprising 43,923 square miles, with a population of 7,620,515, and a revenue, including excise, of Rs. 1,55,95,000. Under these circumstances I am to state that the Government of India are prepared to sanction, as a temporary measure, the appointment of an additional Revenue and Police Commissioner, in order that the Southern Mahratta country may have the benefit of the supervision of a separate controlling officer.

15. The President in Council will likewise have no objection to the temporary appointment of an extra Deputy Collector in each of the seriously affected districts, so as to liberate one covenanted assistant for special duty, and to the deputation on such duty of the Mamlatdar of every so affected taluka, his first Carkoon officiating for him, and a new man being engaged for the vacancy in the lowest post of the office. If necessity should arise for further strengthening the administrative establishment, the Government of India will give their favourable consideration to any proposals the Governor in Council may deem it proper to make. Whatever officers may be required for the supervision of special works will, of course, be independent of this addition to the regular administrative staff. In the event of any addition to the Public Works Establishments being needed, application should be made to the Government of India in the Public Works Department, whence orders will be issued for furnishing such officers as can be spared.

16. The telegram forwarded on the 21st instant will have made known his Honour's request that all communications touching the initiation of measures regarding the scarcity should be addressed to this Department. This course, which was the one adopted during the famine in Bengal, appears necessary to secure promptitude and unity of action, and will not interfere with the reference by this Department to that of Public Works of any matters in which professional questions may be involved. Whether a similar concentration of duties should be adopted in Bombay is, of course, entirely for the consideration of his Excellency the Governor in Council. At the same time I am to point out, as an illustration of the inconveniences of more than one Department dealing with the same subject, that, unless my letter of September 29th was unduly delayed in transmission, the Bombay Public Works Department were up to the 9th instant unaware that you had received it.

17. To what has been stated in the telegram regarding the publication of official communications to the Government of India it is unnecessary to add more than that, while the President in Council fully appreciates the advantages of securing the sympathy and confidence of the public, and the intelligent co-operation of traders and others by a frank statement of facts relating to the scarcity and of the measures of relief which are being adopted, the publication of proposals, involving important principles, which are under consideration by the

Government of India should be postponed until the decision of that Government has been received.

18. With reference to the request contained in the same telegram for statements showing the condition of each taluka in the nine districts of the Deccan which are more or less threatened, I am to explain that his Honour has no doubt that the Government of Bombay has already procured such information for its own use, but that without having some such comprehensive review before it, the Government of India is unable to estimate with accuracy what may be the exigencies of the situation, or to do justice to the proposals for relief which are submitted by the Government of Bombay. The statements need not be of an elaborate character, but, after giving the principal figures in tabular form, should conclude with general remarks, containing the best information procurable as to the condition and prospects of the taluka. In addition to these statements once for all, a slightly fuller account of each district in the weekly telegram on the "season and crops" will be all that the Government of India at present require.

19. In conclusion, I am desired to express the cordial acknowledgments of the Government of India of the promptitude and care with which the Government of Bombay and its officers are dealing with the emergency. His Honour the President in Council has no desire to impose upon the Bombay Government any restrictions beyond those which are afforded by the experience of the past, as authoritatively recorded by the Government of India, and has the fullest confidence that his Excellency the Governor in Council will exercise the discretion vested in him so as to prevent any loss of the lives of Her Majesty's subjects, without incurring an expenditure of the public money in excess of the necessities of the case.

I have, &c.

Telegram, 25th October 1876.

From COMMERCE, Simla, to CHIEF SECRETARY, Bombay.

Letter goes to-day expressing regret at the extended and serious aspect of the distress in the Deccan. The President in Council cordially acknowledges the promptitude and care with which the Bombay Government are dealing with the emergency, and the excellent spirit which the wealthy and intelligent classes of the native community are displaying in support of Government. In works for relief, those should be preferred which can be completed or far advanced towards completion by the outlay which the scarcity demands, and which will not collect large gangs at a distance from their homes. The decision to invite tenders for supply of grain, and that the Government should abstain from making purchases in the general market on its own behalf, except in the last resort, is approved. Administrative establishments may be strengthened by one temporary Deputy Collector in each affected district, and putting Mamlutdar of each affected taluka on special duty, first Carcoon acting for him. As a separate controlling officer for southern part of Presidency seems desirable, the Bombay Government may, as a temporary measure, appoint an extra Revenue Commissioner, on Rs. 3,000 per mensem.

Telegram, 24th October 1876.

From SECRETARY, Madras, to COMMERCE, Simla.

Condition of Kurnool, Kaddapah, and Bellary districts very bad, and daily becoming more gloomy. If north-east monsoon should not set in favourably within fifteen days, gravest results. Distress approaching famine will probably ensue in these districts, and great distress in some other districts. Present state of grain market causes us great anxiety. Prices prematurely reached famine rates. Following measures have been taken; relief works opened wherever distress prevails, food to aged and children given in some places, and local officers being aided by additional temporary officers. Member of Board of Revenue visiting all districts most distressed. Very heavy Imperial expenditure probably inevitable.

Telegram, 25th October 1876.

From COMMERCE, Simla, to CHIEF SECRETARY, Madras.

Your telegram of yesterday. The President in Council has received with much concern the accounts of distressed condition of Kuddapah, Bellary, and other districts, and fully approves of measures taken by Madras Government. His Honour wishes to receive, at the earliest practicable date, separate statements regarding each taluka in the distressed districts, showing its area, population, government, realisable revenue in 1875-76, rough proportion of early to late cultivation, average annual rainfall, actual rainfall this season, ordinary price of staple food of the taluka at this season, actual present price of the same, probable extent of failure of crops, and amount, if any, sanctioned for relief works and other relief.

Revenue Despatch, No. 44 of 1876.

From the SECRETARY OF STATE FOR INDIA to the GOVERNMENT OF INDIA.

7th December 1876.

1. The Despatch of your Excellency in Council, dated 26th October, No. 22 of 1876, relative to the scarcity which has arisen in the Presidency in Bombay has been considered by me in Council.

2. I fully approve of the proceedings which form the subject of report, and I concur in the commendation bestowed upon the Government of Bombay and its officers for the promptitude and care with which they are dealing with this emergency. I also recognize and am grateful for the excellent spirit which has been evinced by the more wealthy and influential members of the native community in that Presidency.

3. It is matter for much additional anxiety that scarcity would also seem to be threatening the Kurnool, Kuddapah, and Bellary districts of the Madras Presidency. I approve of the instructions which you have sent to the Madras Government, which appears to be acting with vigour and intelligence. I desire to have a weekly report of the progress of this calamity, both in Bombay and Madras.

I have, &c.
(Signed) CARNARVON.

No. 24 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

(Simla, 2nd November 1876.

1. In continuation of our Despatch

From Government of Bombay, No. 6,008, dated the 21st October 1876, with accompaniments. Resolution of the Government of Bombay, No. 6,152, dated the 27th October 1876.

Telegram from the Government of Madras, dated the 27th October 1876.

Telegram to ditto, dated the 27th October 1876.

Telegram from ditto, dated the 27th October 1876.

Telegram to ditto, dated the 31st October 1876. Telegram from Resident at Hyderabad, dated the 30th October 1876.

Telegram to ditto, dated the 1st November 1876. Letter from Chief Commissioner of Mysore, dated the 3rd October 1876.

Telegram from ditto, dated the 25th October 1876.

Telegram to ditto, dated the 30th October 1876.

all cases of sales of movable property which may be deemed indispensable, the exemptions applicable to ryots which have been proposed in section 266 of the Civil Procedure Code Bill now before the Council of the Governor-General for making laws and regulations.

3. We are engaged in considering the particulars of the works referred to in paragraphs 3 and 4 of the Resolution of the Government of Bombay, No. 6,152, dated 27th October, which only reached us yesterday. The scheme of relief works which the Bombay Government have sanctioned as a whole, to be undertaken as necessity arises, involves a very heavy expenditure, amounting to little less than 62 lakhs of rupees, and we are not free from apprehension that the principle of the injunction contained in the telegram which we addressed to that Government under date of the 16th ultimo, to the effect that the works undertaken should be such as will not involve the continuance of heavy expenditure after the emergency has ceased, and repeated in paragraphs 9 and 10 of our letter of the 25th ultimo, may not have been sufficiently kept in view. Any further instructions that we may deem it necessary to issue on this subject will be communicated to your

of the 26th ultimo, and of our telegram of this date, we beg leave to forward, for your Lordship's information, copies of communications (as per margin) relating to the scarcity prevailing in the Bombay and Madras Presidencies, in the Nizam's territories, and in Mysore.

2. With reference to the communication from Bombay of the 21st ultimo, we have suggested to his Excellency the Governor in Council the probable expediency of taking steps to ensure the occupancy rights of ryots not being sold for default of payment of land revenue in any instances where the default may be to any reasonable extent attributable to the unfavourableness of the season, and of allowing, in

Lordship by the next mail. Allusion is made in the Resolution to a slight fall of rain which took place the week before last in some of the southern districts. We have not yet received information as to the effect of this fall, but it seems to have been confined to the districts of Belgaum, Kaládgi, and Dharwar. We append transcripts of the weekly telegraphic season reports with reference to these districts.

District.	Rainfall for Week preceding.	State of Agricultural Prospects.
Belgaum (25th Oct.) -	1·19	Total rainfall, 30·46 ; rain has fallen partially in eastern talukas, where part of kharif crops will be saved and rabi sown ; slight fall in price of grain.
Dharwar „ -	0·67	Total rainfall, 21·38 ; rainfall very partial in a few villages, in a few places heavy and beneficial ; late crops being sown where rain fell ; grain dealers refuse to sell ; prices rising ; distress very great.
Kaládgi (23rd Oct.) -	1·03	Total rainfall, 10·89 ; more rain urgently wanted for rabi sowing ; cholera in two talukas ; cattle dying from want of fodder ; distress amongst poorer classes ; relief works progressing.

4. The suggestion of the Resident at Hyderabad is still under consideration, because, although the charge consequent on reduction of the rate of railway freight on grain conveyed for the relief of the Nizam's subjects would necessarily be defrayed by the Nizam's Government, such a reduction could not be sanctioned without applying a similar measure to the whole of the distressed districts in the Bombay and Madras Presidencies.

5. In the case of Mysore, a failure of crops and of water supply, and the adoption of various minor measures of relief, were reported to us in January last, and the measures of the Chief Commissioner were approved. Subsequently we were informed of the continuance of drought during the present year, and a special grant of a lakh of rupees was sanctioned on the 12th of April last. The further grant of one lakh of rupees referred to in the Chief Commissioner's telegram was also sanctioned on the 20th ultimo, and detailed information, similar to that required from Madras and Bombay, has been called for.

6. We fear that the worst effects of the scarcity which has thus occurred over so large a portion of Western and Southern India cannot be averted without considerable loss of land revenue and expenditure of Imperial funds, but we shall not fail to adopt every precaution to confine the loss within the necessary limits.

We have the honour to be, &c.

(Signed) H. W. NORMAN, &c.

Telegram.

From the PRESIDENT IN COUNCIL, Simla, to the SECRETARY OF STATE FOR INDIA.

2nd November.

No material improvement in prospects of distressed districts of Bombay. Slight fall of rain in Belgaum, Kaládgi, and Dharwar. Bombay Government have sanctioned programme of relief works exceeding 61 lakhs. We are scrutinising details, fearing that our injunctions have not been sufficiently regarded. Madras Government have asked permission to commence railway from Bellary to Guduk as a relief work. We have declined for reasons given to Bombay on similar application.

No. 6,008, Bombay Castle, 21st October 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

In continuation of my letter No. 5,953, dated 19th instant, I am directed to forward, for the information of the Government of India, the accompanying copy of a report* from the Collector of Násik on the condition and prospects of that district, as also a copy of the Resolution passed by this Government thereon, No. 6,007 of this day's date.

* No. 3,252, dated 15th October 1876.

No. 3,252, Násik, 15th October 1876.

From the ACTING COLLECTOR OF NÁSÍK to the REVENUE COMMISSIONER, Northern Division.

I have the honour to send, for submission to the Government of India, the report on the state of the Násik Collectorate to date of this letter, as required by your endorsement, No. 5,196, of 13th instant, on memorandum of Government in the Revenue Department, No. 5,808, of 11th instant.

2. In the Yeola taluka, which comprises 120 villages, having a population of 59,313 souls, almost complete failure of the kharif crops has occurred, and there has been little or no sowing of rabi, of grass there is next to none, and water is very scarce, instead of being abundant, as is usual at this time of year. The cattle have mostly been driven away to neighbourhoods where there is more grass and water. This is true of all Yeola, except of a dozen villages in the north-east corner of the taluka, separated from the rest of it by a low line of hills, which have apparently attracted rain, for the grass and crops there are nearly in their normal condition.

3. In the Niphar taluka, which has 122 villages, containing a population of 86,017 souls, the kharif harvest will be rather under than over half an average crop. The villages north of the Great Indian Peninsula Railway have crops better than half average. But those south of the railway have crops less than half average, and as the southern division of the taluka is larger than the northern, the kharif harvest may be taken on the whole to be rather under than over half an average crop. Complete failure of the kharif crops has been confined to the villages of—

1. Mannore	-	-	-	Towards the Yeola taluka.
2. Bhorwas	-	-	-	
3. Dahigaon	-	-	-	
4. Wahegaon	-	-	-	
5. Gondegaon	-	-	-	
6. Gollegaon	-	-	-	
7. Maralgeo Khurd	-	-	-	
8. Maralgeo Budruk	-	-	-	
9. Pachora Khurd	-	-	-	
10. Pachora Budruk	-	-	-	
1. Mahal Sakora	-	-	-	Adjoining the Sinnar taluka.
2. Bhossa	-	-	-	
3. Tarrokhedle	-	-	-	
4. Chappargaon	-	-	-	
5. Khangaon Thadee	-	-	-	

The rabi prospects of the Niphar taluka are as bad as those of Yeola taluka, or very nearly so, and in each case there will be no rabi harvest at all, if rain does not fall during this month. In 37 villages of Niphar, here and there fields have been sown for rabi. In the balance of 85 villages no rabi has been sown at all; some cattle have been sent away from the taluka, others will have to go if there be no more rain, and water and grass are scarce.

4. Of the Sinnar taluka, having 103 villages, with a population of 64,872 souls, Mr. Charles, the assistant in charge, writes: "I have now seen a great part of the south of Sinnar, and the worst impressions have been fully confirmed.

There has, therefore, been no rain for more than a few miles east of Sinnar (except in two villages where showers fell on the Nagar border).

"It is therefore certain that no rabi can be sown in all the eastern half of the taluka.

"This of itself means the loss of one-fourth of all the crops.

"Bajri is now being reaped, and though nearly in every village there are some good fields, with an out-turn of perhaps annas 8 or 9, the great majority of all the fields are not two feet high, with the stalks yellow, and what little grain there is small and imperfectly developed. The out-turn of these I should put at about annas 4, while there are numbers of fields and parts of fields where there is no grain at all, and the stalks only a few inches high. The people are becoming very importunate. Yesterday large bodies of Kunhis, from six or eight villages, came to my tents demanding remissions, and asking what arrangements were to be made to feed them.

"I was obliged to tell them I had no authority to promise any remissions, and at this they were angry and even insolent. One set of people, after coming up three or four times and getting the same answer went away, and were heard by my peons to say that they would take an opportunity of knocking the Sahib (*i.e.*, myself) on the head, and then perhaps Government would pay attention to their condition.

"I do not fear that they will carry out their threats, but mention the matter that you may understand what their temper is.

"I think that it is highly desirable Government should make some distinct promise as to the revenue, and then the people could either leave their crops and seek work, or use them to feed cattle with. As it is, they are afraid to leave their villages for fear of being called upon to pay revenue, and having their occupancies sold up.

"I think from what I have seen that no revenue at all can be collected this year from the eastern half of Sinnar, and what I should propose is that the people should be told this as soon as possible, and informed that whatever proportion of the revenue may be finally settled upon as leviable will be collected not this year but the next.

"No half measure will satisfy them, and the good effect of what I am convinced must finally be adopted (*viz.*, no collection this year) will be much neutralized if they are kept in suspense and

It must be remembered that the bajri crop last year was a poor one, owing to excess of rain in September 1875.

irritation for months. I have now been twice over this part (in September and now again), and I cannot see what good further inspections can do, unless indeed a more experienced officer can come to check my conclusions." It will therefore be seen that the kharif harvest of the Sinnar taluka is very poor, especially in the eastern part of the taluka, and if no rain falls during this month there will be no rabi harvest. Mr. Charles says: "This of itself means the loss of "one-fourth of all the crop." I think he understates the calamity, but he knows the district better than I do.

5. Having described the state of things in the Yeola, Niphar, and Sannar talukas, where it is worst, I must say of the rest of the Collectorate that there has been an unusual shortness of rain, which I will show by a statement appended to this letter. The kharif harvest is by no means good, but rabi prospects are worse. There has not been rain enough in September to admit of the land being prepared for rabi crops; and if there be no rain during this month the rabi crops of the whole Collectorate will be very short indeed. In the Chandore taluka the kharif harvest will be very irregular, as was the rainfall, which came to some villages and did not touch others, and I hear that at least a dozen of 32 villages called the Deshi villages, which came to the Kalwan taluka from the Baglan taluka, have had very small kharif crops, and are not likely to have any rabi harvest.

6. Up to the beginning of this month the nagli and rice crops of the hilly or Dang country of the Igatpuri, Násik, Dindori, Kalwan, Baglan talukas promised fairly. But now there are rumours that, owing to cessation of rain since, say, the 26th of September, and unusual atmospheric dryness, the grain has not ripened, and if that be true, Bheels and hillmen about the Ghâts will suffer very much. On the 15th September, when I left the hills of the Kalwan taluka, nagli and rice were vigorous, and rain which fell on the 16th, 18th, 19th, 20th, 25th, 26th, and 28th of September appeared to have removed all cause for anxiety. But if the grain be not ripening very serious want among the hillmen must follow. This matter has my anxious attention.

7. Of remedial measures, I have to report that in the middle of September, finding that a downfall of rain which occurred almost all over the Collectorate on the last two days of August had not been followed by seasonable rains, I directed an expenditure of Rs. 8,176 to be made from local funds in the talukas of Malegaon, Baglan, Kalwan, Chandore, and Nandgaon, which seems to have supplied the demand for labour there, and on the 24th September a relief work was started on the Niphar and Yeola Road, which has been in progress since, and there are now about 2,000 men, women, and children at work there per diem on daily wages of 2 annas, 1½ annas, and 1 anna each. On the 29th September another relief work was begun at the Kopralla Ghât for the Sinnar Taluka; and by the last accounts I have had above 2,000 men, women, and children were working there at the same low rate of wages paid at the Yeola and Niphar Road. Another relief work will be started after the Dewali, say by the 20th of this month, on a small scale, on the Bhawad Bari and Vinchur Road, between the Bari and the Azra Road, to relieve distress which there may be in the 32 Deshi villages of Kalwan and in the Chandore taluka.

8. There are, I have shown, about 4,000 men, women, and children at work on the Yeola and Niphar Road and at the Kopralla Ghât. The numbers are not at this moment increasing, because the kharif harvest is being reaped. But if no rain fall between now and the end of this month, the numbers will, I think, double; and I believe that in November, and further on towards the hot weather, more works of relief will have to be opened. At present the local funds are undertaking the two relief works in progress; but if the increased necessity for work I look for occurs, the local funds will not be able to deal with the matter, and then, as I have represented to Government in my letters to the Revenue Commissioner, Northern Division, Nos. 3,173 and 3,189 of the 9th and 10th instant, some such imperial work as the contemplated railway between Munmar or Lasalgaon stations in the Násik Collectorate and Dhond in the Poona Collectorate will have to be undertaken. I mention this work because it would pass through the Niphar or the Yeola talukas, and be handy for the Sinnar people, and also afford work for a line of country east of the Násik Collectorate in Ahmednagar, where I am led to believe things are worse than they are in the Niphar and Yeola talukas. Here, however, I confess I am speaking out of my range, and from hearsay.

9. It seems to me that the very unusual want of grass and water, which is felt already by cattle in those parts of this Collectorate south of the Great Indian Peninsula Railway, will increase daily till June next, unless we have falls of rain in this month or in November and December, and no one can predict anything about such falls beyond that they are very irregular, and come what may I anticipate much difficulty in collecting the year's revenue due from the Sinnar, Yeola, and Niphar talukas in December of this year, and the first four months of next year. At other points of the district also remissions will have to be made to villages affected by the very irregular rainy season we are suffering from, which has in several cases watered a village, and left neighbouring villages without rain.

10. I am not anxious about grain supplies. There will be grain enough in the district, and if there were not the railway passes through it. But prices are rising, and will rise further as the hot season comes, and the poor people in many places will not have means to buy food. There will also be lack, great lack, of water. Even here, near the Ghâts, the streams are much drier than they are generally at this time of year. In nearly all parts of the district south of the railway grass will be gone in another month, and very little hay, and not as much grain straw as usual, has been collected. If there be no rain within this year there must be much distress south of the line of railway. The grain-sellers are in places holding up grain, and I hear that the Nizam's Government have prohibited export of grain from their territory. This will tend to raise prices. On Tuesday last, the Yeola market day, very little grain came there, which was not customary as there are no grain stores at Yeola, and the weekly market is generally well supplied. At Lasalgaon the large grain dalláls are fearful of their stores being broken into, and

have asked to be allowed to have police. However, I must state that the people of Yeola and Niphar are behaving very well indeed, and though the Sinnar people have complained and even threatened, still nothing like riot has occurred.

11. I have carefully refrained from using the word famine. There is not famine here. There is unusual scarcity of water, grass, and crops. There has been, and will continue to be, till rain falls, scanty earnings. Cattle are becoming burdensome to feed, and further on towards the hot weather, men, women, and children will feel want of money and scarcity of water very greatly.

12. There is a considerable acreage of irrigated lands south of the railway, which will, of course, bear full crops, and for the next two months I do not look for the drying up of the irrigational canals. But they will give out sooner than in ordinary years.

13. I should say that Mr. Cooke, the assistant in charge of the Yeola and Niphar talukas, has been there during this month and last month, when he has visited 38 villages of Yeola and 40 villages of Niphar, and as he is well acquainted with the talukas, his representations to me of their condition is very trustworthy, and I may say the same of Mr. Charles' inspection of the Sinnar taluka, which has been made very carefully and with excellent local knowledge.

14. It is as well to state that the Násik Collectorate comprises the talukas of—

	Population.	Square Miles.	Gross Land Revenue for 1874-75.
			Rs.
Niphar	86,017	370.5	2,78,299
Yeola	59,313	482	1,16,028
Sinnar	64,872	507	1,44,661
Násik	89,377	445.14	1,54,366
Igatpuri	57,735	672	89,631
Dindori	68,626	560	1,32,703
Kalwan	54,152	1,200	89,053
Peint State	47,033	960	51,779
Baglan	59,051	1,420	1,39,745
Malegaon	62,716	774.805	1,80,919
Nandgaon	30,230	424	66,603
Chandore	50,130	299	1,04,003
Total	729,252	7,913	15,47,790

If the nagli crops of the Ghât and hill regions have really failed to ripen, in parts of Igatpuri, Násik, Dindori, Kalwan, Baglan, there will be serious distress among the Bheels and hillmen. The condition of the rest of the Collectorate I have described. The Peint State is not in distress.

15. It strikes me to mention that the Great Indian Peninsula Railway are willing to spend Rs. 10,000 in making a new siding for their station at Igatpuri. This work, which they have for some time past been trying to be allowed to make, would help hill-people in that neighbourhood. In case of the nagli having failed in the Kalwan Dangs, the big dam at Chankapur, which is in the heart of a Bheel country, might be made, and would relieve all Kalwan and parts of Dindori, and as I have said the contemplated railway from Munmar or Lasalgaon to Dhond would relieve Niphar and Yeola, and perhaps Sinnar, and be of advantage to the distress of the Ahmednagar districts.

CONTRASTED STATEMENT showing the RAINFALL in the NÁSÍK COLLECTORATE.

Names of Talukas.	During 1875.								During 1876.								Remarks.
	June.		July.		August.		Septem-ber.		June.		July.		August.		Septem-ber.		
	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	Inches.	Cents.	
Nasik	8	95	10	47	5	86	6	97	—	—	9	52	5	65	—	80	This is at the taluka stations only, and not general. The rainfall has been not only much below average, but the fall was very irregular, and sometimes in heavy masses; thus at Yeola— Ins. Cts. In June 1876 - 10 15 July " - 2 23 August " - 1 73 September " - 0 55 and at Niphar— In June 1876 - 3 58 July " - 5 69 August " - 3 9 September " - 0 3
Sinnar	5	95	5	81	5	9	5	56	2	27	4	5	3	2	1	3	
Igatpuri	28	56	58	63	23	44	35	84	11	65	57	55	34	70	10	67	
Dindori	7	44	12	7	6	49	9	68	—	—	8	47	8	36	—	82	
Niphar	3	7	3	74	7	10	6	—	3	58	5	69	3	9	—	3	
Chandore	5	40	6	41	11	93	10	28	4	20	5	32	2	37	—	69	
Yeola	7	41	3	40	11	8	8	18	10	15	2	23	1	73	—	85	
Nandgaon	2	88	4	5	8	13	8	63	5	51	3	84	1	92	—	61	
Malegaon	4	83	5	31	7	8	7	15	8	22	2	51	3	99	1	1	
Baglan	11	85	8	57	8	97	6	15	2	36	2	48	4	46	1	59	
Kalwan	5	90	6	53	6	—	11	61	2	31	6	57	5	56	1	86	
Peint State	17	98	47	22	20	46	26	90	6	35	41	21	23	60	7	60	
Total	110	22	172	24	121	63	92	95	56	60	149	84	98	25	27	46	

No. 6,007, dated Bombay Castle, 21st October 1876.

RESOLUTION by the GOVERNMENT OF BOMBAY, in the Revenue Department.

Memorandum from the Revenue Commissioner, N. D., No. —, dated 16th October 1876.— Submitting, with his remarks with reference to Government memorandum, No. 5,808, dated 11th idem, a report, No. 3,252, dated 15th idem, from the Collector of Násik on the condition and prospects of that Collectorate.

RESOLUTION.—This report should be placed on the editors' table, and copies forwarded to the Government of India and the Secretary of State.

2. As to remissions, the Collector should be informed that in villages where there is nothing but kharif, and where that crop has wholly failed, entire remissions may be granted; no remissions should, however, be granted where there has been an eight-anna crop, but where it is below that valuation the first instalment should be wholly foregone. Whatever inquiries may be necessary should be made by villages or groups of villages.

3. Government consider it premature to issue any instructions regarding rabi crops.

No. 6,152.

EXTRACT from the PROCEEDINGS of the GOVERNMENT OF BOMBAY in the Revenue Department, dated 27th October 1876.

Telegram, dated 29th September 1876.

Distress rapidly increasing, and prospects becoming worse in eastern districts of this Presidency. Almost inevitable that large relief works must be sanctioned immediately out of Imperial funds. The proposed railway from Dhond to Manmád will afford employment to three districts, and everything is ready for commencement in certain portions of the line. Authority to begin in case of necessity earnestly requested without delay.

Telegram, dated 3rd October 1876. (*See* p. 10.)

Telegram, dated 4th October 1876. (*See* p. 11.)

Telegram, dated 16th October 1876. (*See* p. 11.)

RESOLUTION.—His Excellency the Governor in Council, while regretting that the Government of India have deemed it their duty, for the reasons stated in their telegram, to withhold permission for the commencement of work on the Dhond and Manmád Railway, gratefully acknowledges the confidence which has been placed in this Government, and the authority conveyed to them to incur such expenditure in providing work and relief in the distressed localities as they may consider necessary.

2. The reports last received from those districts are certainly not of a more favourable character than the earlier ones, and the Government have therefore lost no time in calling upon the officers of the respective Departments to submit proposals for providing employment, as far as possible, for those in need, on the understanding that, for the present at any rate, railway works must be excluded from their calculations.

3. In the case of the three districts specially dealt with in the Resolution of the 16th instant, viz., Ahmednagar, Poona, and Sholápur, proposals have been submitted providing for an outlay on road works of Rs. 8,61,879, and on works connected with the Irrigation Department of Rs. 10,61,770, to which last may be added hereafter, if required, another work, the Neera Canal, on which the possible outlay is in eight months estimated at Rs. 6,00,000. The total cost of the works which are considered available is therefore Rs. 25,23,649, and it is matter of satisfaction to the Government to find the Irrigation Department in a position at this crisis to provide so much employment of a character which, if not all directly remunerative, cannot fail to be very beneficial in future years to the localities concerned. The statements show that, out of the total given above, works to the amount of Rs. 3,28,516 have been already sanctioned. Orders have been given for the resumption of work on the Mutha Canal, and tenders have been invited for the supply of food to the labourers to be employed on it. The other works will be proceeded with as needed, and as soon as the necessary arrangements have been made. The scheme having been sanctioned, it will rest with the local officers to represent the necessity for proceeding with any particular work.

4. Turning to the districts of Dharwar, Belgaum, Kaládgi, Satara, Násik, and Khandesh, the proposals submitted provide for an outlay on road works of Rs. 20,05,000, and on works connected with the Irrigation Department of Rs. 16,56,139, giving a total of Rs. 36,61,139. The statements show that, out of this sum, works to the amount of Rs. 2,16,341 have been already sanctioned. And the directions given above with respect to the commencement of particular works will apply to the districts now under notice.

5. Such are the arrangements by means of which the Government hope to be able to provide the chief part of the employment needed for some months. They have no intention of beginning all the works simultaneously, but one of the greatest difficulties with which they have to contend is uncertainty as to the extent of the demands which may ultimately be made upon them, and which they must be prepared to meet as the necessity arises. The impression is gaining ground that the proportion of the population to whom aid must be given, in some shape, will much exceed the calculation given in the Resolution of the 16th instant. On the other hand, it is possible that the rain which has lately fallen in some of the southern districts may greatly mitigate the distress. The proposed scheme of operations is now sanctioned as a whole, in order that the local officers may be prepared to act as soon as the emergency arises.

6. Another element of complication, and one which has of late become very prominent, is the question of the water supply. The reports now show that in many of parts of the country sources of supply, which at this season are usually ample, have already failed. Cattle are already dying in consequence, and as the drought increases, much attention must be paid to this question in the selection of the works to be undertaken.

7. In connexion with the scarcity of water it has been suggested, both by local officers and the Sarvajanic Sábha of Poona, that efforts should be made for the transfer to other localities of such of the population as might be willing to quit their present homes, and the Government is making inquiries with this object.

8. It will be the duty of the local officers, when requesting authority for the commencement of any work of magnitude, to state whether the local dealers may be expected to supply food, or whether it will be necessary for Government to invite tenders from other quarters.

9. The revenue and police officers should likewise submit to Government, through the Revenue Commissioners, their views as to any additional establishments that may be required for preserving order, for distributing relief to the infirm poor, or for the superintendence of the relief works, which must be undertaken from time to time under the control of the Collectors.

10. Statistical tables have been called for, showing in respect of each taluka of the Deccan and Southern Maratha Collectorates, the area, population, average produce, average rainfall, average price of grain, and those of the present season. A sketch map should be attached to these tables.

11. Copies of this Resolution, and of the reports and statements referred to, should be forwarded for the information of the Government of India.

Telegram, 27th October 1876.

From PRESIDENT IN COUNCIL, Madras, to PRESIDENT IN COUNCIL, Simla.

A fortnight's time must determine whether famine is inevitable. In that case concentration of relief labour most necessary; already upwards fifty thousand employed on scattered relief works in one district out of three. If famine contingency arises, we propose commencement of embankment work of Bellary-Guddak Railway, which traverses worse part of suffering district as State work. Please telegraph reply.

Telegram, No. 387, 27th October 1876.

From COMMERCE, Simla, to PRESIDENT IN COUNCIL, Madras.

Your telegram to President in Council of this date. The Government of India do not think it advisable in present emergency to sanction large and expensive works, the ultimate cost of which will greatly exceed the expense involved in providing labour for distressed poor. Local works should be organised. Bombay Government have been similarly instructed. The railway project must be decided on its merits.

Telegram, 27th October 1876.

From MADRAS GOVERNMENT, Madras, to FINANCIAL SECRETARY, Simla.

Sanctions for relief works already aggregate rupees three hundred and seventy-seven thousand seven hundred and seventy. Impossible to avoid expense, or to provide from provincial or local.

Telegram, 31st October 1876.

From COMMERCE, Simla, to the GOVERNMENT OF MADRAS.

With reference to your telegram of 27th to Financial Department stating amount of sanctions for relief works, it is very desirable that report called for in my telegram of 22nd should be furnished as soon as possible.

Telegram, 30th October 1876.

From RESIDENT at HYDERABAD, Deccan, to COMMERCE, Simla.

Price of grain has risen most seriously here and throughout Hyderabad territory. Rice four to five and wheat seven to eight seers per rupee. Merchants offer to import grain from north-west and other quarters if the railway charge for transport is lowered. I venture to suggest that this be considered in respect of all grain in transport between Madras and Bombay, or from Central Provinces or north-west to localities affected by scarcity.

Telegram, 1st November 1876.

From COMMERCE, Simla, to RESIDENT, Hyderabad.

Your telegram of 30th received, regarding lowering of freight of grain. Cannot decide immediately as question affects other Provinces.

From OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE to the SECRETARY TO THE GOVERNMENT OF INDIA, Foreign Department.

Bangalore, 3rd October 1876.

In reply to your telegram of the 27th ultimo, calling for detailed information regarding the present condition of the province, I am directed by the Chief Commissioner to submit the following report for the information of the Government of India.

2. As the Government of India have been made aware from this office, letter No. 7717/114 of 14th January 1876, the condition of the province excited considerable apprehension at that period owing to the almost total failure of the south-west monsoon of last year, 1875, and the consequent loss of the staple dry crops (raggi), which are grown in that season over the greater part of the province. The harvest of the previous year had, however, been fortunately an abundant one, and though the north-east monsoon, which is relied upon to fill the tanks, and thus furnish water for the wet crops cultivated under them, also failed, the difficulties of the year were tidied over with the aid of large grants for relief works, and considerable remissions of the revenue demand.

While the rainfall for 1857 was therefore very deficient, that of the present year computed for the same period of seven months, viz., from January to July, has been still more so, as shown in the subjoined table for the five districts which are chiefly affected.

		1876.	1875.	1874.
Tumkur	- - - - -	21·97	24·21	33·47
Kolar	- - - - -	29·22	29·80	44·12
Shimoga	- - - - -	14·59	18·69	22·77
Kadur	- - - - -	18·57	17·80	25·99
Chitaldroog	- - - - -	8·56	8·77	15·70

3. The effects of the present scarcity will be better illustrated, however, by reference to the subjoined statement of the price of the two staple grains, rice and raggi. This statement shows the selling prices of these grains on the 15th September 1876 and those which ruled on the same date last year and in 1874.

Districts.	Seers per Rupee.								
	Rice, 1st Sort.			Rice, Common.			Raggi.		
	15 Sept. 1876.	15 Sept. 1875.	15 Sept. 1874.	15 Sept. 1876.	15 Sept. 1875.	15 Sept. 1874.	15 Sept. 1876.	15 Sept. 1875.	15 Sept. 1874.
Kolar - - - -	11·5	17·2	14·7	11·	17·5	15·1	16·5	33·2	43·4
Tumkur - - - -	7·5	15·	13·	8·5	17·	14·	15·	53·2	56·
Shimoga - - - -	8·5	11·5	13·	10·5	16·7	17·	14·7	29·5	46·
Kadur - - - -	10·	12·	12·5	11·	14·	16·	14·	24·	32·
Chitaldroog - - -	9·	12·	13·	10·	15·	15·	14·2	29·	49·

The following is summarised from the reports which have been recently received as to the state of the crops and the people in the districts.

5. Of the three districts composing the Nundydroog Division, Kolar and Tumkur are chiefly affected, the former chiefly in the five taluks on the eastern frontier bordering Her Majesty's territory, and the latter chiefly in the taluks of Sira and Honavalli, though the other taluks are also affected, but to a less degree. In these tracts the dry crops which, owing to the delay in the monsoon rains, had been recently put down have been more or less wholly lost by the absence of timely showers during August and September. There has been an absolute failure of pasture, and cattle, which are so indispensable to the ryot, have died literally in thousands. This is, fortunately, not the case throughout these districts, but had it not been for a good fall of rain which occurred on the 25th ultimo the standing crops would also have gone and famine would have inevitably supervened over the whole area. The fall of rain has saved, it is hoped, a portion of these crops, and if more rain falls the ryots will be able to raise crops of the inferior millet, horse grain, &c. before the ensuing hot weather. In the Bangalore District of the same division the crops have been parched, and in many cases destroyed, by the drought, but, though severe distress prevails, this district has not suffered in a similar degree.

6. In the Nagar Division the condition of the whole of the Chitaldroog District, and of large tracts of the Shimoga and Kadur Districts, has been worse probably than that of the Kolar and Tumkur Districts described above. In the table appended to paragraph 1 the rainfall in the Shimoga and Kadur Districts has attained in the seven months nearly the same average as in 1875, but the figures do not quite represent the actual facts, as they include the returns from the western taluks near the ghâts, where the rain has not been very deficient this year. In the eastern taluks the rainfall has been probably the same as in the Chitaldroog District adjoining, viz., 8 inches, against 15 inches in 1874.

7. In the Ashtagram Division the distress is most seriously felt in the eastern taluks of the Hassan District, and to a less extent perhaps in those of the Mysore Districts.

8. I am desired to state that, excepting in the Kolar District, where, on the urgent representation of the Deputy Commissioner, a sum of Rs. 3,000 was recently allotted as a Government contribution towards the maintenance of "feeding kitchens" or houses in six taluks, the assignments which have been made from the 1 lac grant sanctioned by the Government of India in your No. 821, dated 11th April last, as well as from local funds, to the amount altogether of Rs. 106,983 up to date, have been ordered to be expended wholly on relief works, such as the repairs of tanks, deepening of wells, &c. While the outlay has thus been of a useful and profitable character, these works, which have been in progress in some districts throughout the present year, have contributed beyond question to allay the distress and misery which would otherwise, in all human probability, have ere this culminated in actual famine among large classes of the people.

9. In conclusion, I am desired to solicit the sanction of his Excellency in Council to an additional special grant of Rs. 100,000 being placed at the disposal of the Chief Commissioner for expenditure on such further relief works as may be necessary in the districts most affected, and for providing pecuniary assistance in such form as may be deemed best calculated to afford timely succour to the distressed during the present scarcity, which must for some months at least exist among the poorer of the agricultural classes.

I have, &c.

Telegram, 25th October 1876.

From CHIEF COMMISSIONER, Bangalore, to FOREIGN SECRETARY, Viceroy's Camp.

My secretary's letter, No. 6,524, of 3rd instant. Owing to absence of rain the expectation of saving some portion of the raggi crops will not be realised, the area in which distress and famine may be looked for is enlarging, and relief works must be commenced in every district. The scarcity of food grains aggravated by increase of distress in Madras Presidency. The further grant of 1 lakh applied for will be needed at once.

Telegram No. 2,342 G., 30th October 1876.

From FOREIGN UNDER SECRETARY, Simla, to CHIEF COMMISSIONER, Mysore.

President in Council wishes to receive early separate statements regarding each taluka in districts where drought or scarcity prevails, showing area of taluka, population, realisable revenue in 1875-76, rough proportion of kharif to rabi cultivation, average annual rainfall, actual rainfall this season, ordinary price of staple food of the taluka at this season, actual present price of the same, probable extent of failure of crops, and amount, if any, sanctioned for relief works and other relief. These statements may be prepared from the best materials available, and corrected or supplemented afterwards, and should be forwarded as soon as possible.

No. 27 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA

Simla, 9th November.

1. In continuation of our Despatch of the 2nd instant, we beg leave to forward, for your Lordship's information, copies of communications (as per margin) relative to the scarcity prevailing in Western and Southern India.

Letter to the Bombay Government, No. 806, dated the 3rd November.

Reports of rainfall and state of crops in the Bombay Presidency for the week ending the 13th October 1876.

2. We are still awaiting the complete

Telegram from Chief Commissioner of Mysore, dated the 1st November.

Telegram to ditto, dated the 2nd November.

Accompaniment to Bombay Government Resolution, No. 6,152, dated the 27th October.

Telegram to Bombay Government, dated the 9th November.

Telegram to ditto, dated the 4th November.

Telegram to ditto, dated the 7th November.

Telegram from ditto, dated the 7th November.

Telegram to Government of Madras, dated the 7th of November.

information from Bombay and Madras which was called for in our telegrams of the 22nd and 25th ultimo respectively, but have reason to believe that the slight rainfall which took place in some parts of Bombay has practically afforded but little relief, and that no change for the better has taken place in the situation generally.

3. We have approved of a proposal received from the Chief Commissioner of

Mysore to contribute, on behalf of the State, an amount equal to any sum which may be raised by private subscription in the province for the relief of distress.

4. A preliminary scrutiny of the scheme of relief works sanctioned by the Government of Bombay, and referred to in paragraph 3 of our last Despatch, having been completed, we have intimated our disapproval of two large works, by which heavy future liability would have been incurred, and have directed that certain others shall not be commenced, pending the receipt of fuller information. We have, however, explained that if, previous to this being supplied and considered, other relief works should be necessary, minor works may be commenced in each distressed taluka on the system already adopted in the Poona District.

5. The question of the reduction of the freight of grain by railway is still under consideration, pending replies to a reference which we have made to the Governments of Madras and Bombay, but we append a telegram received from the latter, which shows that the importation of grain by the Great Indian Peninsula Railway is very satisfactory.

We have the honour to be, &c.

No. 806, Simla, 3rd November 1876.

From OFFICIATING SECRETARY to the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the CHIEF SECRETARY to the GOVERNMENT OF BOMBAY.

With reference to the Resolution of the Bombay Government, No. 6,007, dated the 21st ultimo, upon a report by the Collector of Násik, which was one of the accompaniments to your letter, No. 6,008, dated the 21st ultimo, I am directed by his Honour the President in Council to suggest to his Excellency the Governor in Council the expediency of taking steps to ensure that the occupancy right of ryots shall not be sold in any of the distressed districts for default of payment of land revenue in any instances when the default may be, to any reasonable extent, attributable to the unfavourableness of the season, and, further, of directing by executive order that in any sales of movable property for such default which may be deemed indispensable, such of the exemptions which have been proposed in section 266 of the Civil Procedure Code Bill (vide "Gazette of India," dated the 30th September 1876, Part V.) as may be applicable to ryots shall be allowed to them.

WEEKLY REPORT of RAINFALL and the STATE of CROPS, &c. in the several talukas of the Násik Collectorate from 7th October to 13th October 1876, inclusive.

No.	Talukas.	Fall of Rain during the Week ending 6th October 1876.	State of Crops, &c.
		In. Cents.	
1	Násik -	—	The kharif harvest is coming in, and will be about a half crop. If rain do not fall within this month the rabi harvest will fail very greatly; want of rain during this month and last has prevented rabi sowing. The rabi harvest is of much importance in the Collectorate, and without it I look for distress: and there will be scarcity of water, and grass, and grain straws in that part of the Collectorate south of the railway. 2,000 souls at work on the Niphar and Yeola Road. 2,000 at the Kappala Ghat in the Sinnar Taluka. Numbers will increase largely after the Diwali. No signs of rain.
2	Sinnar -	—	
3	Igatpuri -	—	
4	Dindori -	—	
5	Niphar -	—	
6	Vinchur -	—	
7	Chándor -	—	
8	Yeola -	—	
9	Nándgaon -	—	
10	Málegaon -	—	
11	Báglán -	—	
12	Kalwan -	—	
13	Peint State -	—	

No. 3,246 of 1876.

Forwarded to the private secretary to his Excellency the Governor, in accordance with the instructions from the Revenue Commissioner, N.D.

WEEKLY REPORT of RAINFALL and the STATE of CROPS in the several talukas of the Poona Collectorate for the week ending 15th October 1876.

No.	Taluka.	Fall of Rain during the Week ending 15th October 1876.	State of Crops, &c.
		In. Cents.	
1	Indápur	—	There was no rain throughout the Collectorate during the week under report. No change since last week in the prospects. The early crops in many places are being cut for forage. At the weekly markets held in the larger villages cattle are offered for sale at nominal prices, and find no purchasers. A water famine threatens the eastern districts. The prices of grain have been steady during the last week.
2	Khed -	—	
3	Máwal -	—	
4	Haveli -	—	
5	Purandhar -	—	
6	Sirur -	—	
7	Bhimthari -	—	
8	Junnar -	—	

REPORT of RAINFALL and the STATE of CROPS, &c. in the several talukas of the Belgaum District for the week ending Tuesday, the 17th October 1876.

No.	Talukas.	Rainfall during the Week.	Prices of Provisions.		State of Crops, &c.
			Jowari.	Rice.	
		In. Cents.	Seers per Rupee.	Seers per Rupee.	
1	Belgaum -	—	8	6	No rain has been registered during the past week; a few showers fell in the neighbourhood of Belgaum, but not sufficient to do much good. The accounts from all the talukas are very unfavourable. The kharif crops have all withered in Gokak, and also in Athni, except on the banks of the River Krishna. In the north of the taluka of Chikori there has also been a total failure of the crops, and those in the other talukas are most indifferent. Continued complaints of want of water, the scarcity of which in some places threatens to become very serious. The mortality of cattle continues. There is a great dearth of grain in all the markets. In some towns it is scarcely to be obtained. Although grain is selling at very high prices in Belgaum, it is scarcely procurable, and the officer commanding the troops has complained that the sepoys are actually suffering in consequence of their not being able to buy the necessary supply of food. The merchants are most unwilling to sell, and declare that their stores are becoming exhausted. Very little importation takes place from the district, as the traders imagine that the roads are unsafe, and that the goods will be plundered. The price of grain having risen in Bombay the supplies from that quarter will run short. Local Funds Works are in progress throughout the district, but are insufficient to employ the many labourers out of work.
2	Sampgaon	—	10	5	
3	Bidi -	0 22	9	7	
4	Chikori -	—	9	6	
5	Parasgad -	—	9	6	
6	Gokák -	—	9	6	
7	Athni -	—	8	6	

No. 2,616 of 1876.

WEEKLY REPORT of RAINFALL and the STATE of CROPS, &c. in the several talukas of the Kaládgi Collectorate for the week ending 14th October 1876.

No.	Taluka.	Fall of Rain during the Week.	State of Crops, &c.
		In. Cents.	
1	Indi -	—	No rain since last report; consequently in every respect the condition of things has become more aggravated. Bazaar prices have very materially risen during the week, and will soon border on famine rates. The scarcity of fodder, has increased and the cattle are suffering much. Many people are taking their cattle off to Karwar and elsewhere for grazing; consequently carriage is very difficult to procure, and trade much impeded thereby. Water also is in many places very scarce. The Indi Mámlatdár reports that many people are migrating out of his taluka. Crime also is on the increase, and many are afraid to travel for fear of being robbed. The public health cannot be called good, in that the poor suffer from insufficiency and badness of food. In some talukas there is slight cholera. The weather has become hot again, and heavy clouds at times appear; but, judging from past experience, it is very doubtful whether they will lead to rain. Should they not do so, it will be necessary very shortly to commence relief works on an extended scale.
2	Sindgi	—	
3	Muddebihál -	—	
4	Bágewári -	—	
5	Bijápur -	—	
6	Bágalkot -	—	
7	Bádami -	—	
8	Hungund -	—	

WEEKLY REPORT of RAINFALL and the STATE of CROPS, &c. in the several talukas of the Sholápur
Collectorate for the week ending 18th October 1876.

No.	Talukas.	Rainfall during the Week ending 18th instant.		State of Crops, &c.
		In.	Cents.	
1	Sholápur -	—	—	There may be said to have been no rain during the week, and, therefore, everything is almost as bad as it can be. 20,000 cattle in all have been taken from the Karmála Taluka into Nizam's territory. Many villages in different talukas are being deserted, and it will be the same in many more in a few days' time when the last hope of rain is gone. 32,000 persons employed on small relief works throughout the district.
2	Bársi -	—	—	
3	Madha -	—	—	
4	Karmála -	—	—	
5	Pandharpur -	0	8	
6	Sángola -	0	8	
7	Málsiras -	—	—	

WEEKLY REPORT of RAINFALL and the STATE of CROPS, &c. in the several talukas of the
Ahmednagar Collectorate for the week ending 10th October 1876.

No.	Talukas.	Fall of Rain during week ending 10th October.		State of Crops, &c.
		In.	Cents.	
1	Nagar -	—	—	Bajri has withered for want of rain. Rabi sowing has taken place in some villages and has already germinated, but the young plants are perishing. Sowing not commenced in some places for want of rain. People in want of food are employed in relief works.
2	Párner -	—	—	Jowari has been sown in some places where it had rained formerly, and has germinated; but without rain it is not likely there will be any yield. People in want of food are employed in relief works.
3	Shrigonda -	—	—	Kharif has entirely perished. Jowari sown in nine villages. If it rains in a week or so, rabi will be sown. For want of fodder, people are removing their cattle elsewhere. If it does not rain soon the condition of the people will get worse. People in want of food are employed in relief works.
4	Karjat -	—	—	Kharif has entirely perished, and rabi has not been sown at all. There is no fodder for cattle, which are being removed elsewhere. Cattle are dying for want of fodder. About 400 men are employed on relief works. Grain is very dear. People in want of food are employed on relief works.
5	Jámkhed -	—	—	Rabi has been sown in such places only where the ground was moist, and has germinated, but young plants are withering for want of rain. People are removing themselves, with their cattle, elsewhere. Kharif has been reaped. The yield is estimated at 6 annas.
6	Sheogaon -	—	—	There was no rain, otherwise the kharif and rabi crops would have been benefitted.
7	Newása -	—	—	Kharif crops doing fairly. The yield will be about 8 annas. Jowari sowing has been completed, and gram sowing is in progress, but rain urgently required to complete sowing operations. Prices are rising.
8	Ráhuri -	—	—	Kharif has perished or is withering. Rabi sowing delayed for want of rain; where rabi was sown without sufficient moisture the young plants are withering. Prices are rising. The kharif yield will hardly be 3 or 4 annas.
9	Kopargaon -	—	—	Rabi sown in places where the ground was moist is in villages to the south and east. Cattle are being removed elsewhere for want of fodder. Jowari has germinated. Bajri sown late is shooting into ear. Water in the Godáviri is running low, as in the hot weather. Prices are rising. People in want of food are employed on relief works.
10	Sangamner -	—	—	Rabi sowing delayed for want of rain. Kharif is being reaped. Cattle are suffering from want of fodder. Prices are rising. People in want of food are employed on relief works.
11	Akola -	—	—	Bajri ear has dried for want of rain, and there is no rain. The "Warai" and "Nágli" crops in the Dangi villages are withering. "Jiri" rice, and other miscellaneous crops, will give fair yield if it rains. Rabi sowing has not yet taken place. Rain urgently required. Kharif yield will be about 8 annas.

WEEKLY REPORT of RAINFALL, showing the STATE of CROPS, &c. for the Week ending 15th October 1876.—9 a.m.

No.	Talukas.	Rainfall during Week ending 15th October 1876.	Rainfall from 1st January to 8th October 1876.	Total.	Fall of Rain from 1st January to 18th October 1875.	Average Rainfall for the last 5 Years (Year ending 30th November).	REMARKS.
		In. cts.	In. cts.	In. cts.	In. cts.	In. cts.	
1	Satara -	—	33 59	33 59	52 32	40 4	Kharif crops, sweet potatoes, and sugar-cane, better for the present. Rabi, where sown, requires rain.
2	Jauli -	—	59 84	59 84	101 64	74 3	Sugar-cane not good. Rain urgently required. Kharif crops withering; people looking anxious.
3	Wai -	—	25 34	25 34	48 68	32 88	Kharif crops suffering from want of rain; rabi sowing suspended in some places.
4	Koregaon -	—	20 8	20 8	37 20	27 77	Kharif crops,—loss will be 8 annas in the rupee. Rabi sown in some places, in others still suspended.
5	Pátan -	—	48 82	48 82	95 56	61 71	Crops withered.
6	Karád -	—	19 75	19 75	34 79	27 97	Sugar-cane good. Kharif crops withered.
7	Wálwa -	—	12 80	12 80	25 55	25 24	
8	Tásgaon -	—	9 79	9 79	23 56	25 77	Kharif withering. Cattle are being fed on withered stalks.
9	Khánápur -	—	11 4	11 4	28 44	23 34	Kharif crops withered.
10	Khatau -	—	11 51	11 51	26 47	22 38	Loss of 14 annas in the rupee anticipated in the kharif crops.
11	Mán -	—	9 35	9 35	17 29	20 89	Kharif crops withering. Sugar-cane mid-dling.
12	Malcolmpeth -	—	243 18	243 18	336 40	273 22	

There was a total absence of rain in the district during the week. The cry for rain is general, and the prospects from present appearances are gloomy. The entire failure of the kharif crops is apprehended—those that are standing are to a great extent fast withering. The bare stalks in some places are being cut down for fodder to cattle. The sowing of the rabi is generally suspended. The people look anxious.

No. 3,182 of 1876.

From COLLECTOR OF DHARWAR to PRIVATE SECRETARY TO THE GOVERNOR, Bombay.

Dharwar, 17th October.

I have the honour to submit my Weather Report for the week ending 14th instant. From it affairs appear to be as bad, if not worse, than before.

2. On the 14th afternoon, however, and on the 15th and 16th, rain, it is privately reported, has fallen in several places; and while I now write, 17th, it appears that heavy rain must be falling to the east. Should we get rain we may be saved anxiety as regards drinking water, but there will still be dreadful distress from want of work, and assistance will have to be most liberally continued.

I have the honour to be, &c.

WEEKLY REPORT for Week ending 14th October 1876.

No.	Names of Talukas and Pethas.	Rainfall during the Week.	REMARKS.
		In. cents.	
1	Dharwar -	0 4	
2	Mugud Petha -	0 16	
3	Hubli -	—	
4	Nawalgund -	—	
5	Nargund Petha -	—	
6	Gadag -	—	
7	Mundargi Petha -	—	
8	Bankápur -	—	
9	Hángal -	—	
10	Ránibennur -	—	
11	Karajgi -	—	
12	Kalghatgi -	0 37	
13	Kod -	—	
14	Ron -	—	

No.	Talukas and Pethas.	State of Weather and Crops.
1	Dharwar - -	Crops not so good as last week; prices of grain rising, and dealers refuse to sell for cash.
2	Magad Petha -	Crops worse than last week.
3	Hubli - -	Report not received yet.
4	Nawalgund - -	Crops worse than last week. The sufferings of the poorer classes from the want of employment are greater than the last week. Many of the poorer classes hardly get a meal a day. Cholera prevails in eight villages. Some money must be given for the section of the Hubli Kaladgi Road in the Taluka.
5	Nargund - -	Crops worse than last week. The poorer classes are suffering considerably from want of employment. They hardly get a meal a day—in fact, they are in a state of destitution and bordering on starvation. Public health good.
6	Gadag - -	Crops worse than last week; in some places the crops have perished. The poorer classes are suffering very much from want of employment. The prices of grain are rising. The Mámlatdár of Gadag reports that the well-to-do in the town of Gadag Betigeri are about to raise funds to buy grain wholesale, and sell it to the poorer classes at the rates purchased. Cholera decreasing.
7	Mundargi Petha -	State of crops worse than last week; garden crops also withering. The poorer classes are suffering very much. The prices of grain are rising—jowari selling at 9 seers, of 80 tolas, per rupee. Holders, however, refuse to sell. Public health good.
8	Bankápur - -	Crops worse than last week; rain is reported to have fallen in a few villages; whether the fall was heavy or slight it is not stated. Prices of grain is rising. Employment required. Public health good.
9	Hangal - -	Crops worse than last week. In some places the rice crops are withered. Public health good.
10	Ránibennur - -	The crops worse than last week. The poorer classes are suffering much from want of work. At Ránibennur about 3,000 poor people are fed once a day by contribution from the well-to-do. Cattle are dying from want of fodder. Public health good.
11	Karajgi - -	Crops are worse than last week. The poorer classes are suffering very much from want of work, and are reported scarcely to get one meal a day. Holders of grain will not sell; many people cannot obtain grain to purchase. Public health good.
12	Kalghatgi - -	Crops worse than last week; great want of work. Public health good.
13	Kod - -	The crops are worse than last week. Public health good.
14	Ron - -	Report not received yet.

No. 3,360 of 1876.

From the COLLECTOR OF KHANDESH to the PRIVATE SECRETARY TO THE GOVERNOR OF BOMBAY.

Camp Dhulia, 12th October.

According to my promise made, when submitting the Weather and Crop Returns of the Khandesh Collectorate, under date 3rd October 1876, I have the honour to forward the accompanying memorandum for the information of his Excellency the Governor.

I have the honour, &c.

MEMORANDUM.

Instead of submitting the usual formal statement regarding the crops, rainfall, &c., for the information of his Excellency the Governor, I am now in a position to record information concerning the central and eastern talukas of the Khandesh Collectorate from personal observation.

2. I have been away from head-quarters for a fortnight, and, by rapid marching, I have been able to inspect the principal portions of the following districts :—

The Parola Petha,
The Erandol Taluka,
The Nusseerabad do.,
The Bhusáwal do.,
The Sauda do.,
The Páchora do.,
The Bhadgaon Petha,

as well as a portion of the Dhulia Taluka.

3. The state of affairs is worst in the Sauda Taluka, the pethas Ráver and Yawal being also very bad, but not as hopeless as the neighbourhood of Sauda itself.

4. The extensive black soil plains between the River Tápti and the level of Sauda itself are perfectly bare, instead of, as is usual at this period of the year, being covered with flourishing crops of every description. The early sowings failed, and the cultivators ploughed up their fields in the hope that the season would prove favourable for the rabi, or second crop. No late rain, however, has fallen, nor does there appear to be a likelihood of any. We must, therefore, accept the fact that in some parts of the taluka the ryots will this season fail to secure any crop whatever. In the lighter soil, in portions of the taluka and its two pethas, a small out-turn may be expected, but the value of the crops (to be ascertained hereafter) will be very small indeed.

5. Relief works have been carried on and are still in progress. The earthwork for the road from the railway station to Sauda has been completed, and the preparation of metal has been commenced. The fact that in the month of September over 1,200 local labourers flocked to the road work is in itself the best possible proof of the existence of distress.

6. Besides the preparation of metal (not in itself a very suitable form of labour for distressed persons) I am having a road survey made from the town of Yawal to the Tápti River opposite Bhusáwal. This work will provide labour for many persons for a long time.

7. It is feared that in the event of no more rain falling four or five thousand persons will be dependent on Government for work throughout the dry season.

8. Grass has failed entirely, except in the immediate neighbourhood of the Satpura Hills, and even in the large jungles it is poor and scanty.

2. *Bhusawul.*

9. In the taluka itself, except in a few villages to the south, the kharif crops are an utter failure, and in the neighbourhood of the Tápti River the country is as bare as on the opposite bank of the Sauda Taluka. The petha Edalabad is in better case; but I fear that the total absence of late rain will cause the harvest to yield less than half the usual amount.

10. Small relief works have been in progress in the Bhusáwal Taluka for the last six weeks. The railway provides a good deal of work, and if the company agree to carry out more extensive alterations and additions, concerning which I have addressed Government through the Revenue Commissioner, Northern Division, I fancy that large numbers of distressed persons will be able to get employment.

11. I am starting work at the Bodwad Tank, and also on a road from Warangaon.

12. A bad outbreak of cholera has occurred at the village of Susri, near Warangaon; half the number of persons attacked have died, and the accounts are still bad. I visited the village in company with my assistant, Mr. Woodward. I have now placed a hospital assistant on the spot. Medicine has been freely supplied since the commencement of the outbreak. No other village or town in the neighbourhood has been affected in any way.

3. *Jalgaon or Nusseerabad.*

13. Up to last month this taluka was in a better condition than its neighbours, but the absence of any late rain has caused immense damage. Crops there will be, but, with the exception of a few favoured villages, the yield will not exceed six or seven annas in the rupee.

14. The water supply at the important town of Jalgaon, always insufficient, is past failing altogether. Great difficulty will, therefore, be experienced during the ensuing season by the press and mill companies. Very strong representations on the subject of a water supply have been made from time to time by the European and native inhabitants of Jalgaon, and a scheme was prepared for supplying the town with water from the Mehrum Tank at a cost of Rs. 80,000; the greater portion of the above sum would, of course, be spent on improving and extending the tank. There appeared to be a difficulty, however, about providing funds, and up to the present time nothing has been done. I have now the plans and estimates before me, and hope to be able in a few days to make, on behalf of the Jalgaon Municipality, proposals to Government for raising the necessary funds. At the present time such a work would not only benefit the town permanently, but provide any amount of labour for the distressed poor.

15. Relief works are now in progress in the Nusseerabad Taluka, and a portion of the line between Jalgaon and Dharangaon has been taken in hand.

16. I fear that, as in the case of Sauda, there will be a steady demand for relief works up to the next monsoon in the Nusseerabad Taluka.

4. *The Pachora Taluka and Bhadgaon Petha.*

17. Like Nusseerabad, this taluka and petha for a portion of the monsoon did not suffer to any great extent, but, of late, crops of all kinds have been steadily failing. As regards cotton, although some of the fields visited by me appeared to be in a better state than those I had seen elsewhere, yet the cultivators themselves assess their cotton crop at 4 annas in the rupee. This is too low, but the real out-turn will not, I imagine, reach anything like 8 annas. Both Pachora and Bhadgaon will suffer greatly as regards the jowári crop; this in the Bhadgaon Petha is the staple product, and I am quite satisfied that, except in the case of a few favourably situated fields here and there, the crop of jowári will be hardly worth reaping.

18. The same outcry concerning the absence of grass exists in this taluka as elsewhere.

19. From Bhadgaon I visited the Government Model Farm, under the superintendence of Mr. Stormont. On the whole the crops are fair, and in some cases good. Jowári has failed of course, but the constant care and attention exercised by Mr. Stormont have borne satisfactory results. The general harvest at the farm will, in all probability, not be actually brilliant, but it will undoubtedly compare very favourably with the produce of the neighbouring lands cultivated by ordinary ryots.

20. I found a great cry for work among the Bheels and labouring classes both in Pachora and Bhadgaon.

21. A few small relief works have been in progress for some time past, and I am now taking in hand that portion of the Páchora and Bhadgaon Road to the east of the Titur River. Preparations are also being made for commencing a road from the town of Bhadgaon to the Kajgaon Railway Station.

5. *The Parola Petha of the Amalner Taluka.*

22. I found the state of the crops very unsatisfactory, cotton almost worthless, and the various grains withered and shrunk. The want of water in the town of Párola is a very serious evil at present. The supply is always bad, and towards the end of each dry season great inconvenience is felt, but on the present occasion the want of water at the beginning of October is as great as at the end of May in ordinary years. Some persons have already left the town, and what will become of the inhabitants in general I do not know, if it should appear that the present apprehensions as to the water supply not lasting for more than a month more be realised.

6. *Erandol Taluka.*

23. The crops are very inferior, but the necessity for relief works is not so pressing as elsewhere. In the eastern portion of the taluka, however, I received applications for work from distressed labourers. Little or no grass.

7. *The Dhulia Taluka.*

24. Is on the whole in an unsatisfactory condition. In some places the low rich land on the banks of the river, &c. has yielded fair crops, but the contents of the poorer and higher soil are hardly worth reaping. In the Dhulia market, on October 10th, there was a very serious rise in the price of grain.

25. Local works are being carried out as required, but the demand for work will probably very much increase as the season advances.

26. In the talukas of Chálisgaon, Jámner, Chopra, and Shirpur, according to the latest accounts, the kharif crops are withering, and there is but little prospect of a rabi crop; but at present the scarcity is not being very severely felt, and in some places labour has been provided for the present. The taluka of Virdel, which was originally in so bad a state, is again falling off. There is work for the people.

27. In the western talukas—Pimpalner, Nandurbár, Sháháda, and Taloda—the crops are very much better than elsewhere. They have fallen off of late, but there is no scarcity or distress, except in the Nizámpur Petha of the Pimpalner Taluka.

28. I have now somewhat fully described the condition of Khandesh up to the 7th instant, and will next week revert to the ordinary tabular form of return. The people of the district are at present quite quiet. The only outcry is for work and remissions of revenue; the former is being provided as actively as possible; the latter is under inquiry, and a report will be submitted hereafter. Remissions will have to be granted, and in some cases to a large extent.

Telegram, 1st November 1876.

From CHIEF COMMISSIONER, Bangalore, to FOREIGN UNDER SECRETARY, Simla.

Your telegram of 30th. Statements for talukas will be prepared and submitted. The failure of north-east monsoon has completed the destruction to the extent of 20 per cent. of the kharif crops in all districts. Great distress exists throughout from loss of harvest in two successive years. Relief works already in operation, and will be needed on a large scale in every district. Large imports of grain by rail. I have sanctioned purchase of grain in local markets for payments on relief works. Public meeting takes place to-morrow morning, when I propose, unless prohibited, to intimate the intention of local administration to supplement all local private subscriptions for relieving distress by an equivalent grant, as was done in the famine of 1866 by Mr. Bowring.

Telegram No. 2,382 G., dated 2nd November 1876.

From FOREIGN UNDER SECRETARY, Simla, to CHIEF COMMISSIONER, Mysore.

Your telegram of 1st. Government approves proposed intimation at public meeting that local administration will supplement all local private subscriptions for relieving distress by an equivalent grant, as was done in 1866.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Poona District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
<i>Provincial.</i>		
Road repairs (supplementary grant)	8,000	
<i>Famine Relief Works.</i>		
1. New line of road from Baramati to Moregaon	Rs. 9,655	
2. Do. from Indiápur to Sugaon	„ 2,319	
3. Do. from do. to Nira River	„ 7,190	
4. Do. from Chandgaon Ferry to Loni	„ 3,000	
	22,164	
		30,164

Description of Works.	Amount.	Total.
PROPOSED EXPENDITURE.	Rs.	Rs.
<i>Famine Relief Works.</i>		
5. Metalling and improving the road from Poona to Pour and Pimpri Ghát - - - - -	40,000	
6. Constructing Málsej Ghát Road - - - - -	80,000	
7. Improving existing approach road to Málsej Ghát from Anna Ghát on the boundary of Nagar District - - - - -	20,000	
8. New line of road, Kusur Ghát to Wárgund - - - - -	5,000	
9. " Bhima Shunkar Ghát to Khed - - - - -	7,000	
10. " Capoolee Ghát to Mánchar - - - - -	5,000	
		1,57,000
<i>Under Civil Agency.</i>		
Subsidiary works under Collector, as per annexed statement - - - - -		80,000
	Total Rs. -	2,67,164

PROPOSED EXPENDITURE in the CIVIL DEPARTMENT in addition to Works already sanctioned.

<i>Indapur.</i>	Rs.
Roi to Loni on Sholápur Road. This will connect the centre of the taluka with the railway at Pumalwádi, 4 miles, at Rs. 500 a mile - - - - -	2,000
<i>Bhimthari.</i>	
Rawangaon on Sholápur Road to Bori Byall, 4 miles, at Rs. 500 a mile - - - - -	2,000
<i>Brimthari and Purandhar.</i>	
Continuation of Bárámati and Moregaon Road to Jejuri. This road has been partly cleared, but the line is difficult—12 miles, at Rs. 500 a mile - - - - -	6,000
<i>Purandhar.</i>	
Sáswad to Párgaon or road to Borghát, 6 miles, at Rs. 500 a mile. This will act as a feeder to the Uruli Station - - - - -	3,000
<i>Purandhar and Haveli.</i>	
Improving road from Jejuri to Uruli Station, including Borghát, which is very bad—about 15 miles, at Rs. 200 a mile - - - - -	3,000
<i>Sirur.</i>	
From cattle farm at Aligaon to Sirur and Kheingaon Road, 7 miles, at about Rs. 300 a mile. (This work might be carried out by the Superintendent of Government Cattle Farm) - - - - -	2,000
<i>Sirur.</i>	
Improving road from Nimone to Sirur, 9 miles. (This road has already been cleared.) - - - - -	1,000
<i>Sirur.</i>	
Extension of above road from Nimone to Madnagaon to river, opposite Pátas Station, 10 miles, at Rs. 300 a mile. (This road is not much wanted, but it is a railway feeder, and Madangaon is a large village.) - - - - -	3,000
<i>Sirur.</i>	
Extension of Sirur and Pábal Road to village of Pábal from village boundary, 2 miles, at Rs. 600. The ground is difficult - - - - -	1,200
<i>Sirur.</i>	
Improvement to existing road between Sirur and Pábal, 20 miles, at Rs. 50 a mile - - - - -	1,000
<i>Sirur and Khed.</i>	
Completion of road from Khed to Sirur. Original estimate—Rs. 10,798—already expended. Rs. 4,500 additional expenditure; in current year's budget, Rs. 2,000 - - - - -	5,000
<i>Sirur, Khed, and Junnar.</i>	
Clearing a road from Sirur to Narayangaon, about 30 miles, at Rs. 300 a mile. This road would leave the Sirur and Multán Road midway between those places, and would pass through Konteh, Pargana Rájuri, &c. The Public Works Department should line out the road - - - - -	9,000
For minor works, such as deepening tanks and wells, cutting prickly pear, &c. - - - - -	32,000
Extra establishments, including police - - - - -	10,000
	<u>80,200</u>

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Ahmednagar District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
<i>Provincial Budget.</i>		
Road repairs (supplementary grant)	16,000	
<i>Local Fund Budget.</i>		
1. Bari Ghát Road	5,000	
2. Road from Kardáh to Káshti	4,200	
Re-appropriation of grants under Collector	5,000	
		30,200
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
3. Metalling Nagar and Dhond Road	1,00,000	
4. New line of road from Bari Ghát to Sanganner	12,000	
2. Do from Kardáh to Káshti (additional grant)	20,000	
5. Railway feeder, Dicksál to Roween and Karjat	10,000	
Subsidiary works under Collector, as per accompanying statement	70,000	
		2,12,000
Total Rs.	-	2,42,200

Mooruming Existing Lines.

	Rs.
6. Ahmednagar and Anna Ghát Road	
7. Do. Karmála	
8. Vita to Náundur	
9. Ahmednagar to Aturd	
	30,000

New Lines.

Roads in Párner Taluka	5,000
Do. Ankola do.	5,000
Water-supply and minor works	30,000
	<u>70,000</u>

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Sholápur District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
<i>Provincial Budget.</i>		
1. Sholápur and Tákli Road	30,000	
Road repairs (supplementary grant)	10,000	
<i>Local Funds Budget.</i>		
Re-appropriation local fund works under Collector	25,460	
<i>Famine Relief Works.</i>		
Subsidiary works executed by collector	34,800	
		1,00,260
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
2. Metalling the road from Bársi to Yedsi Ghát	70,000	
3. New line of road from Pandharpur to Janoni	40,000	
4. Improving the existing line of road from Bársi to Sholápur	21,000	
5. New line of road from Pandharpur to Wángi via Tembúrní	25,000	
Subsidiary works under Collector, as per annexed statement	96,255	
		2,52,255
Total Rs.	-	3,52,515

FAMINE WORKS to be carried out by Civil Agency in the Sholapur Collectorate.

Description of Works.	Amount.
	Rs.
6. Sholapur and Pandharpur cleared track, Rs. 500 per mile - - -	19,000
7. Sholapur to Akalkot frontier, Rs. 500 per mile - - -	7,500
8. Sholapur to Sângola from Tirbe Ferry to Begampur <i>viâ</i> Mangalveda, at Rs. 1,000 per mile - - -	30,000
9. Road to connect Jámkhind and Jutt, one north in the Sângola taluka, with Sângola Pandharpur Road, Rs. 1,000 per mile - - -	15,000
10. Pumalwâdi to Karti - - -	3,500
11. Kem to Rupli and Parianda - - -	3,500
Subsidiary works now in progress - - -	17,755
Total Rs. -	96,255

ABSTRACT.—Poona, Ahmednagar, and Sholapur.

	Sanctioned Allotment.	Proposed Expenditure.	Total.
	Rs.	Rs.	Rs.
Poona Collectorate - - -	30,164	2,37,000	2,67,164
Ahmednagar Collectorate - - -	30,200	2,12,000	2,42,200
Sholapur Collectorate - - -	1,00,260	2,52,255	3,52,515
Total Rs. -	1,60,624	7,01,255	8,61,879

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Poona District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
Mutha Canal - - -	1,30,000	
Repairs - - -	6,000	
		1,36,000
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Mutha Canal - - -	1,58,000	
Seersopthal Tank - - -	2,59,085	
Mullut Tank - - -	54,570	
Supeh Tank - - -	5,118	
Pâtas Tank - - -	33,165	
		5,09,878
Total Rs. -		6,45,878

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Ahmednagar District.

Description of Work.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
Bhatodi Tank - - -	12,624	
Ojhar Canal - - -	5,000	
Repairs - - -	1,000	
		18,624
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Ojhar Canal Extension - - -	20,000	
		20,000
Total Rs. -		38,624

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Sholápur District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.		
	Rs.	Rs.
Ekrak Tank - - - - -	10,268	13,268
Repairs - - - - -	3,000	
PROPOSED EXPENDITURE.		
Famine Relief Works.		
Ashteh Tank, Mahreh - - - - -	3,64,000	3,64,000
	Total Rs. -	3,77,268

ABSTRACT.—Poona, Ahmednagar, and Sholápur.

	Sanctioned Allotment.	Proposed Expenditure.	Total.
	Rs.	Rs.	Rs.
Poona Collectorate - - - - -	1,36,000	5,09,878	6,45,878
Ahmednagar Collectorate - - - - -	18,624	20,000	38,624
Sholápur Collectorate - - - - -	13,268	3,64,000	3,77,268
Total Rs. -	1,67,892	8,93,878	10,61,770

IRRIGATION DEPARTMENT.

SUPPLEMENTARY STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Poona District.

Description of Work.	Amount.	Total.
	Rs.	Rs.
<i>Neera Canal.</i> —In the Purandhar and Indápur Taluks - - -	6,00,000	6,00,000
	Total Rs. -	6,00,000

REMARKS.

This canal forms a distinct portion of the Neera Project, estimated cost of which amounts to Rs. 44,71,080. It is proposed to construct the canal on a reduced scale (capable of enlargement hereafter), which might be utilized next year, with the addition of a weir across the river, estimated to cost Rs. 3,85,921, for the irrigation of lands in the above talukas which are now suffering most severely from drought. The district traversed by the proposed canal is one of most uncertain rainfall, and in which remissions have been heavy and frequent. The records of famine show that one out of every three is a bad year, and that remissions vary from 12 to 80 per cent. of the land revenue. In 1869 the remissions due to drought amounted to 45 per cent. of the land revenue.

Detailed plans and estimates for the various portions of this project are ready. They have received the approval of the Chief Engineer for Irrigation, and were laid before the Inspector-General of Irrigation in 1871.

The Storage Lake need not be undertaken till there is a demand for perennial water ; and the Government would only therefore be committed to the outlay for the weir and canal works on a reduced scale, or, at the outside, to about sixteen lakhs of rupees, including distributing channels.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Dharwar District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
<i>Provincial Budget.</i>		
Metalling the Mail Road - - - - -	15,000	
Road from Gadag to Hesroor - - - - -	30,000	
Improving Tenai Ghát Road - - - - -	15,000	60,000
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Metalling Mail Road - - - - -	3,00,000	
Road from Gadag to Hesroor - - - - -	30,000	
Metalling Road, Hubli to Sunguttikop - - - - -	86,000	
Do. Hubli to Anigherry - - - - -	1,00,000	
Road, Hubli towards Kaládgi - - - - -	1,50,000	6,66,000
Total Rs. -		7,26,000

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Belgaum District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENT.	Rs.	Rs.
<i>Provincial Budget.</i>		
Metalling Mail Road - - - - -	28,000	28,000
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Metalling Mail Road - - - - -	4,00,000	4,00,000
Total Rs. -		4,28,000

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Kaládgi District.

Description of Works.	Amount.	Total.
PROPOSED EXPENDITURE.	Rs.	Rs.
<i>Famine Relief Works.</i>		
Road from River Bhima near Tákli to Malprabha River at Govenkop, being part of Sholápur and Hubli Road - - -	2,00,000	
Dholkeir on Bhima to Frontier in direction of Bellary - - -	2,00,000	
Bagáلكot to Hungund - - - - -	36,000	4,36,000
Total Rs. -		4,36,000

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Satara District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENT.	Rs.	Rs.
<i>Provincial Budget.</i>		
Metalling Mail Road - - - - -	15,000	15,000
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Metalling Mail Road - - - - -	2,00,000	2,00,000
Total Rs. -		2,15,000

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Násik District.

Description of Work.	Amount.	Total.
PROPOSED EXPENDITURE.	Rs.	Rs.
<i>Famine Relief Works.</i>		
Remaking road from Deoláli Station towards Poona - - -	50,000	50,000
	Total Rs. -	50,000

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Khandesh District.

Description of Works.	Amount.	Total.
PROPOSED EXPENDITURE.	Rs.	Rs.
<i>Famine Relief Works.</i>		
Metalling road from Manmár Station to Boreghur—Agra Road -	50,000	
Road to Dang Jungles by the Jackrea Baree - - -	1,00,000	1,50,000
	Total Rs. -	1,50,000

ABSTRACT.—Dharwar, Belgaum, Kaládgi, Satara, Násik, and Khandesh.

	Sanctioned Allotment.	Proposed Expenditure.	Total.
	Rs.	Rs.	Rs.
Dharwar District - - - -	60,000	6,66,000	7,26,000
Belgaum " - - - -	28,000	4,00,000	4,28,000
Kaládgi " - - - -	—	4,36,000	4,36,000
Satara " - - - -	15,000	2,00,000	2,15,000
Násik " - - - -	—	50,000	50,000
Khandesh " - - - -	—	1,50,000	1,50,000
Total Rs. -	1,03,000	19,02,000	20,05,000

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Khandesh District.

Description of Works.	Amount.	Total.
<i>Sanctioned Allotments.</i>	Rs.	Rs.
Mookti Reservoir, Dhulia - - - -	5,000	
Mhaswa Tank, Párola - - - -	28,500	
Repairs - - - -	5,000	38,500
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Mhaswa Tank, Párola - - - -	22,000	
Chowpalla Tank, Nandurbár - - - -	23,558	
Doodala Tank, do. - - - -	11,280	
Bhokur Tank, Amalner - - - -	56,945	
Dhymell Tank, Pimpalner - - - -	2,23,552	
Dewjipura Tank, do. - - - -	26,577	3,63,912
	Total Rs. -	4,02,412

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Dharwar District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
Yelwigi Tank, Bankápur - - - - -	9,204	
Mavenkope Tank, Dharwar - - - - -	6,944	
Tiliwali Tank, Hángal - - - - -	5,355	
Madag Tank, Kod - - - - -	5,330	
Other works and repairs - - - - -	1,538	
<i>Famine Relief Works.</i>		
Keree Kerur Tank, Kod - - - - -	9,753	
PROPOSED EXPENDITURE.		38,124
<i>Famine Relief Works.</i>		
Dambal Tank, Gadag - - - - -	46,460	
Doni Tank, Gadag - - - - -	65,426	
Medleri Tank, Ránibennur - - - - -	42,000	
		1,53,886
	Total Rs. -	1,92,010

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Kaládgi District.

Description of Works.	Amount.	Total.
PROPOSED EXPENDITURE.	Rs.	Rs.
<i>Famine Relief Works.</i>		
Banknári Tank, Bádámi - - - - -	1,75,000	
		1,75,000
	Total Rs. -	1,75,000

IRRIGATION DEPARTMENT.

STATEMENT OF PROPOSED EXPENDITURE ON FAMINE RELIEF WORK in the Satara District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.	Rs.	Rs.
Maynee Tank, Khatau - - - - -	7,000	
Yerla Irrigation, Nehr Tank, Khatau - - - - -	14,293	
Repairs - - - - -	5,424	
<i>Famine Relief Works.</i>		26,717
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Yerla Irrigation, Nehr Tank, Khatau - - - - -	1,50,000	
Pingli Tank, Khatau - - - - -	1,75,000	
Mhaswar Tank, Mán - - - - -	4,00,000	
Krishna Canal Extension - - - - -	50,000	
		7,75,000
	Total Rs. -	8,01,717

IRRIGATION DEPARTMENT.

STATEMENT of PROPOSED EXPENDITURE ON FAMINE RELIEF WORKS in the Násik District.

Description of Works.	Amount.	Total.
SANCTIONED ALLOTMENTS.		
	Rs.	Rs.
Pálkheir Canal, Dindori - - - - -	1,000	10,000
Repairs - - - - -	9,000	
PROPOSED EXPENDITURE.		
<i>Famine Relief Works.</i>		
Chankápur Tank, Báglán - - - - -	75,000	75,000
	Total Rs. -	85,000

ABSTRACT.—Dharwar, Kaládgi, Satara, Násik, and Khandesh.

	Sanctioned Allotments.	Proposed Expenditure.	Total.
	Rs.	Rs.	Rs.
Dharwar District - - - - -	38,124	1,53,886	1,92,010
Kaládi do. - - - - -	—	1,75,000	1,75,000
Satara do. - - - - -	26,717	7,75,000	8,01,717
Násik do. - - - - -	10,000	75,000	85,000
Khandesh do. - - - - -	38,500	3,63,912	4,03,412
Total Rs. -	1,13,341	15,42,798	16,56,139

Telegram.

From COMMERCE, Simla, to Bombay, 9th November 1876.

Your No. 6,153 of 27th ultimo. President in Council does not approve of Neera Canal and Malsej Ghaut as relief works. His Honour requests that pending submission of further information which will be communicated by letter, no steps may be taken to commence any of the following works, namely, new roads from Sholapoor to Sangola, and Sangola to Jutt Road from Dholkheir to Bellary frontier, Jakree Baree Road, Pimpulneir Tank, metalling of Pimpree Ghaut Road, Ahmednuggur and Dhond Road, mail road in Satara and Belgaum districts, except from provincial funds, Hooblee and Anigherry Road, Hooblee and Sungutteekop. Regarding other large irrigation tanks and canals, except the Mutha Canal, a further communication will be made shortly. If, pending explanation, other relief works are needed, minor works should be commenced in each taluka distressed, as has been done in Poona. It is also requested that full information may be forwarded as soon as possible of the probable proportion of failure of Kharif and rabi crops in each taluka.

Telegram, 4th November 1876.

From COMMERCE, Simla, to CHIEF SECRETARY, Bombay.

Please telegraph whether "Times of India" statement, Monday last, regarding increased traffic in grain on the Great Indian Peninsula Railway is correct.

Telegram Nos. 407-408, 7th November 1876.

From COMMERCE, Simla, to GOVERNMENTS OF MADRAS AND BOMBAY.

Resident, Hyderabad, urges reduction railway freight of grain for distressed parts of Nizam's territories. Is similar reduction necessary for ^{Madrás} ^{Bombay} districts on railway? Are high prices sufficient attraction for adequate supplies? Please telegraph as soon as possible to Simla.

Telegram, 7th November 1876.

From WORKS, Bombay, to COMMERCE, Simla.

Your telegram of 4th instant. Statement about grain traffic in "Times of India" of 30th ultimo is generally correct. Very abnormal grain traffic on Great Indian Peninsula Railway.

Revenue Despatch, No. 46 of 1876.

From the SECRETARY OF STATE FOR INDIA to the GOVERNMENT OF INDIA.

21st December.

1. The Despatches of your Excellency in Council, dated 2nd and 9th November, Nos. 24 and 27 of 1876, relative to the scarcity prevailing in Western and Southern India, have been considered by me in Council.

2. The proceedings of your Government, which form the subject of report in the Despatches under reply, have my approval.

I have, &c.
(Signed) CARNARVON.

No. 28 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Calcutta, 17th November.

1. In continuation of our Despatch of the 9th instant, relative to the scarcity in Western and Southern India, we beg leave to forward, for your Lordship's information, copies of the communications specified in the margin.

Telegram from Government of Bombay, dated the 9th November 1876.

Telegram from ditto, dated the 10th November 1876.

Telegram from Government of Madras, dated the 9th November 1876.

Telegram from Resident at Hyderabad, dated the 11th November 1876.

Telegram to ditto, dated the 11th November 1876.

Telegram from Government of Bombay, dated the 8th November 1876.

Telegram to ditto, dated the 9th November 1876.

Telegram from ditto, dated the 10th November 1876.

Telegram from ditto, dated the 13th November 1876.

Telegram from Government of Madras, dated the 4th November 1876.

Telegram to ditto, dated the 11th November 1876.

Letter from Government of Bombay, dated the 6th November 1876.

Telegram to ditto, dated the 10th November 1876.

Letter to ditto, dated the 9th November 1876.

Telegram from ditto, dated the 11th November 1876.

Telegram to ditto, dated the 17th November 1876.

Letter from Government of Madras, dated the 7th November 1876.

2. We have now received most of the information regarding the Bombay Presidency which had been called for, and are giving it our careful consideration. We are also to receive weekly narratives in future. The aspect of affairs has not improved, and continues to be extremely serious.

3. We stated in our last Despatch that we had deemed it necessary to stop two large works included in the programme submitted by the Government of Bombay, and to direct that certain others should not be commenced pending the receipt of more detailed information with reference to them. Among the papers now submitted will be found a telegram from the Government of Bombay, under date the 11th instant, remonstrating against these orders, as being inconsistent with the discretionary authority accorded to the local Govern-

ment in our telegram of the 16th ultimo, stating that some of the works adverted to have been commenced, and requesting to be informed whether they are to be stopped. In reply we have requested the Government of Bombay to inform us of the names of the works to which they allude. On the receipt of this information we shall issue such further instructions as the circumstances may appear to call for. At present we will only observe that it is very far from being our desire to impose any unnecessary restrictions on the action of the local Government, but that we regard it of great importance, from a financial point of view, that large projects should not be commenced, under the stress of the present emergency, which are likely to involve a continuance of heavy expenditure after the scarcity has ceased, and that the apparent departure from this rule, especially in the case of the Malsej Ghât and the Nira Canal, led us to issue the order to which the Bombay Government object. As we have left the Government free to substitute smaller and more strictly local works for those which we have stopped or suspended pending inquiry, we cannot think that any practical inconvenience is likely to result from our orders.

4. The question of taking every precaution which may tend to diminish the mortality among cattle is so pressing and so important, that with reference to a Resolution which has been sent to your Lordship by the Government of Bombay with their Despatch of the 6th instant, No. 44, we have thought it right to intimate to that Government that we see no objection, under the circumstances, to their

going even further than they appear to have contemplated in the direction of making the Government forests available for the sustenance of cattle, and that, should his Excellency in Council deem it proper, it may be well to proclaim as free grazing grounds for the distressed districts any forest reserves which may be conveniently situated, and which are not of a description to sustain serious permanent injury from cattle being admitted into them.

5. Your Lordship will observe that we have not felt justified in assenting to the recommendation made by the Resident of Hyderabad, in his telegram of the 30th October, that with reference to the very high prices obtaining at Hyderabad and in the Nizam's territories generally, and with a view to the early replenishing of the grain market from the north and south, the rates of freight for the transport of grain on the railways should be reduced. Before disposing of this recommendation, we deemed it advisable to refer to the Governments of Madras and Bombay for their opinion as to its necessity as respects the Madras and Bombay Districts; for the rates could hardly have been lowered in the case of grain destined for Hyderabad without adopting a similar course in the case of grain destined for the distressed districts in Madras and Bombay. The replies of those Governments satisfied us that it would not be advisable to adopt Sir Richard Meade's recommendation. The Resident's telegram of the 11th instant, which must have crossed ours of the same date, has not led us to alter our opinion.

The Bombay Government state that the railway brings up every day as much grain as it can carry; that the prices demanded on the retail trade bear no proper proportion to the cost of transit; that there has been over speculation in the grain trade; that prices are beginning to fall. The Government of Madras consider any reduction unnecessary and undesirable; that private trade is active, and that a reduction of the rate of freight would not benefit either the consumers or the railway, but only the traders already largely profiting.

6. The detailed statements explanatory of the condition of the affected districts in the Madras Presidency, which the Government was requested to furnish, have not yet been received; but we learn from the letter from Madras under date the 7th instant, which is enclosed, that the district officers, acting under the direction of the members of the Board of Revenue, who have been deputed to visit the affected districts, are doing all that is necessary. We regret, however, to have to report for your information a measure which has been taken by the Government of Madras without any previous reference to us, and which we regard as open to very grave objections. On the 9th instant we received from the Government of Madras a telegram, dated the 4th instant, which had been delayed in transit, intimating that with reference to the high prices and the uncertainty as to the stores of grain in the distressed districts in that Presidency, the Government had confidentially contracted with a local firm for the purchase of 30,000 tons of rice at a cost of 32 lakhs of rupees, and requesting us to provide for the payment in Calcutta of four lakhs of rupees per week. This step appears to have been taken by the members of Council in the absence of the Governor, who at the time was away from the Presidency on a tour, and who did not return to Madras until the 7th instant. In the present state of the finances such a measure should only have been resorted to upon the strongest grounds of proved necessity, and not then, until full explanation of the necessity had been submitted to and accepted by the Government of India, upon whom rests the entire responsibility for the financial administration of the Empire. In the absence of detailed information, for which we have called, but which has not yet reached us, we are not at present in a position to express a confident opinion as to whether the circumstances are such as to justify a measure which is open to the grave *primâ facie* objection that it may seriously interfere with the course of private trade, to say nothing of the loss which it may entail upon the State; but, so far as we are able to form a judgment from the scanty information before us, we feel bound to say that the action of the Madras Government appears to be singularly inconsistent with the chief ground assigned by them for deprecating any reduction of the rates of freight for the transport of grain, viz., the activity of private trade. In bringing the subject thus prominently to your Lordship's notice in the present stage of the question, we are influenced by the consideration that if local Governments are to be permitted that to embark in financial transactions of such magnitude without the permission or knowledge of the Government of India, the most serious embarrassment must ensue. We have instructed the Madras Government to make no further purchases of grain without our permission, and have called for full explanation of

their recent action, which, as soon as it reaches us, will be submitted to you with our remarks.

We have the honour to be, &c.

Telegram, 9th November 1876.

From SECRETARY, Bombay, to REVENUE SECRETARY, Simla.

Your telegram of 7th. We have already urged the railway to reduce their rates. But the railway brings up every day as much grain as it can carry, some of which remains at Poona, and some goes on. The prices demanded on retail rate bear no proper proportion to the cost of transit, and I cannot see how we can secure any reduction being made in the retail price in consideration of the reduced railway charge for which Government will have to pay.

Dated the 10th November 1876.

From SECRETARY, Bombay, Public Works Department, to REVENUE SECRETARY, Simla.

Collector of Sholapur reports officially, in reference to telegram of 6th instant from "Times of India" special correspondent, that not a single death from starvation is known to have occurred in the Sholapur District, and that he does not anticipate any such deaths will occur. The deaths that have occurred have been due to an outbreak of a choleraic type in a party employed on a relief work. Party has been broken up, and people transferred to other works, and all precautions taken.

Telegram, 9th November 1876.

From SECRETARY, Madras Public Works Department, to SECRETARY, Government of India, Public Works Department.

Reduction railway freight of grain considered unnecessary and undesirable. Private trade active. Reduction not benefit consumers or railway, but only traders, already largely profiting.

Telegram, Hyderabad, Deccan, 11th November 1876.

From RESIDENT, Hyderabad, to REVENUE SECRETARY, Calcutta.

The minister earnestly solicits that railway charge on consignments of grain of 15,000 maunds and upwards from North-west Provinces to Hyderabad may be reduced by one half to facilitate importations by Hyderabad merchants from that quarter. I trust the question may receive early consideration. Much grain has been exported from Hyderabad to suffering British districts, and Nizam's Government has forbidden any interference with or obstruction to such exportations. This drain has caused great rise in prices, and much distress here.

Telegram, 11th November 1876.

From SIR A. ARBUTHNOT, Simla, to RESIDENT, Hyderabad.

Both Madras and Bombay Governments object to reduction of railway freights for grain. Railways already carrying as much as they can. President in Council does not think reduction advisable.

Telegram, 8th November 1876.

From SECRETARY, Government of Bombay, to REVENUE OFFICIATING SECRETARY, Simla.

Your telegram of yesterday. Collectors of Poona, Ahmednagar, Sholapur, Kaladgi, and Satara authorised each to expend Rs. 25,000 for preserving lives of those too infirm to work or too poor to buy grain.

Telegram, 9th November 1876.

From REVENUE OFFICIATING SECRETARY, Simla, to SECRETARY, Bombay.

Your telegram of yesterday's date. The President in Council wishes for explanation of the organization which has been adopted for preserving lives of those unable to work or buy grain.

Telegram, 10th November 1876.

From SECRETARY, Government of Bombay, Works, Poona, to SECRETARY, Government of India, Revenue Department, Simla.

My telegram of 7th. Enormous traffic in food-grain over Great Indian Peninsula. Conder reports on 9th, 10,000 tons on line between Egutpoora and Tanna, and in past three weeks 21,000 tons conveyed to Poona and stations beyond, only a small portion of which was for stations on Madras line. From information received there has been over speculation in grain trade, and prices, which are abnormally high, now beginning to fall. Large exports to southern ports, 16,000 kandies in October. Grain from Persian Gulf, Sind, and Guzarat coming in large quantities to Bombay. Will keep you informed of grain movements.

Telegram, 13th November 1876.

From SECRETARY, Bombay, Public Works Department, Poona, to REVENUE SECRETARY, Calcutta.

Discretionary allowance made to Collectors. Collectors place at disposal of Assistant Collectors, Mamlutdars, and local district officers, portions of allowance to enable them to give aid to incapable and destitute persons. Patels ordered to feed and pass on to nearest Mamlutdars' stations indigent and incapable travellers. At present these allowances availed of only to very small extent. Relief is given on works. Later on may be necessary to increase discretionary allowance and staff for distribution.

Telegram, 4th November 1876.

From SECRETARY, Government of Madras, Revenue Department, to FINANCIAL SECRETARY, Calcutta.

In consequence of extreme uncertainty grain stores in distressed districts, and extraordinarily high prices prevailing in distressed districts in Madras, and difficulty in obtaining food for money, this Government have confidentially secured a Government reserve during this month of 13,000 tons rice, to be supplemented in this month by 2,000 tons wheat, and in next month by further 15,000 tons rice. These supplies are to be strictly held as reserve to meet contingency of local markets and private enterprise failing. Action of Government has been kept secret, and district officers encouraged to rely on local contracts. Estimated cost, whole transaction, 32 lakhs. Accountant General, under instructions of Government, arranged immediate payment five lakhs in Calcutta through Currency Office, leaving explanation to this Government with view to secrecy. This Government rely on Government of India to place four lakhs of rupees a week in Bank of Bengal at credit of Arbuthnot and Co. for next five weeks, keeping transaction secret.

Telegram, 11th November 1876.

From SIR A. ARBUTHNOT, Simla, to CHIEF SECRETARY, Madras.

Your telegram, 4th instant, to Financial Secretary. President in Council requests that no further purchases may be made without previous reference and full explanation to Government of India. Proceeding now reported calculated to cause serious financial embarrassment. Please explain fully by letter to Calcutta.

No. 6,346, Bombay, 6th November 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA.

I am directed to acknowledge the receipt of your letter No. 365, dated the 25th ultimo, communicating the observations of the Government of India on the measures that have hitherto been taken, and those which are about to be taken, by this Government for the relief of the distress prevailing throughout a large portion of this Presidency.

2. His Excellency the Governor in Council is grateful for the confidence that has been reposed in this Government, and the freedom and latitude of action that have been conceded to them. The suggestions conveyed in your letter will receive his Excellency in Council's best attention, and care will be taken to keep the Government of India regularly and promptly informed of the course of events.

Telegram, 10th November 1876.

From SECRETARY, Government of India, Revenue Department, Simla, to SECRETARY to Government, Bombay, Revenue Department, Bombay.

President in Council requests that full information may be submitted about irrigation relief works, and no work undertaken which exceeds Rs. 30,000 estimate without the sanction of the Government of India.

No. 412, Simla, 9th November 1876.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY.

1. With reference to my telegram of this date on the subject of the programme of relief works, estimated at Rs. 61,84,758, which was sanctioned by the Bombay Government Resolution, No. 6,152, of October 27th, I am directed by the President in Council to communicate the following remarks.

2. The construction of a ghaut road between the Deccan and Konkan is, under all circumstances, an undertaking involving very heavy expense during a series of years. One lakh of rupees, which it is proposed to devote to the Malsej Ghaut, would go but a short way towards its completion, but might prove a foundation for inconvenient demands in future years. The work, moreover, is not very conveniently situated with regard to the homes of the more distressed population, and there would appear to be doubts as to the healthiness and water supply of the locality. The Neera Canal, likewise, is a project by the commencement of which

the Government, and in this case the Imperial revenue, would be committed to a heavy future outlay. On these grounds the President in Council requests that the Malsej Ghaut and its approaches, and the Neera Canal, may be excluded from the programme of relief works.

3. I am to request that, with the permission of his Excellency the Governor in Council, you will be so good as to submit full explanation as to the necessity of the under-mentioned works :—

- (a.) Metalling of the Pimpree Ghaut Road (Rs. 40,000). This is understood to be a line much disused of late years, the metalling of which is of doubtful advantage compared with other works.
- (b.) Metalling the Ahmednagar and Dhond Road (Rs. 1,00,000). In the event of the railway being eventually constructed, this expenditure will be thrown away. Would it not be better to add the amount (when required) to the line from Khande to Kashti, and possibly to the branch from it to Deksal Station? Part perhaps might be added to the Ahmednagar and Karmala grant. All these will, apparently, relieve nearly the same locality as the Dhond and Munmar line.
- (c.) The proposed road from Sholapur to Sangola (Rs. 30,000) will, it would appear, have a break of several miles of foreign territory and the unbridged Bhima River in the middle, and will hardly serve traffic better than the road between these places via Pandharpur. The road from Sangola to the Jutt frontier (Rs. 15,000) would seem to be of at best remote necessity. Might it not be better to add the amount of these two lines (if required) to the road from Janoni to Wangi?
- (d.) The metalling of the Hubli and Anigherry and the Hubli and Sunguttikop roads (Rs. 1,86,000) will probably be thrown away if the proposed line from Bellary to Karwar is constructed. Part of the amount would perhaps be better laid out, if required, on the road from Hubli towards Kaladgi. The same objection apparently is applicable, to some extent, to the line from Guduk to Hesrur; but, as this work is understood to be in progress, its abrupt suspension might cause embarrassment.
- (e.) The metalling of the mail road in the Satara and Belgaum Districts (Rs. 6,43,000) would appear to be a measure of very doubtful expediency. The work is essentially provincial in its nature, and it will be distant from the homes of a great portion of the distressed population of these large districts. The same remark applies, though possibly with less force, owing to the conformation of the district, to the metalling of the mail road (Rs. 3,15,000) in the Dharwar District. Would it not be preferable, and perhaps more economical, to organise minor works in the several talukas?
- (f.) The road from Dholkheir to the Bellary frontier (Rs. 2,00,000) would not appear to be very necessary as a thoroughfare, and it is a question whether feeders falling into the road from the Bhima to the Malpurba, or small local works, would not be preferable.
- (g.) The account of the Khandeish District, given by the Collector's letter of the 12th ultimo, shows that the eastern talukas are the most distressed, those in the centre doing indifferently, and those to the west not suffering materially, except the Nirampur Peta.

	Rs.
Pimpalneir Tank	2,50,129
Jakri Bari Road	1,00,000
	3,50,129

Under these circumstances, the necessity for devoting a large proportion of the proposed relief to the western talukas is not apparent. I am desired to request that, pending the submission of full explanation,

none of the works referred to in this paragraph may be commenced.

4. Irrespective of the Neera Canal already referred to, and of the Mutha Canal, to the continuance of which there is no objection, the programme contains irrigation works amounting to Rs. 24,29,909. These are under scrutiny in the Irrigation Department of the Government of India, and I am to request that, pending a reference which will shortly be made and final decision thereon, no work of this nature may be commenced involving an expenditure of more than Rs. 30,000.

5. The President in Council would invite the attention of his Excellency the Governor in Council to the somewhat scanty nature of information contained in the statements which are now under consideration, and to the necessity which they indicate for the presence, especially in the Southern Marhatta country, of an

efficient and active controlling officer, both to report on the condition and wants of the several talukas, and to authorise the commencement of relief works in accordance with the policy which has been determined upon.

6. I am therefore to request that full particulars regarding, not only the works referred to in paragraph 3 of this letter, but the others in the programme, may be submitted at the earliest practicable date, explaining in the case of each road the present condition (if existing), or the objects it is to serve, the amount of total estimate, the amount expended already (if any), expenditure proposed, and the taluka or portion of taluka it is intended to relieve. Regarding other works analogous particulars should be supplied. In all cases correspondence with the Government of India should be quoted if any has taken place. Finally, the works should, as far as possible, be arranged in the order of their precedence or importance in the several districts, so that the least needed may only be taken up in the last resort.

7. While thus obliged to request the suspension, pending the receipt of fuller information, of a large number of the works comprised in the programme, the President in Council has no objection to the commencement of minor works in talukas actually distressed, like those already started in the Poona District, where this course may be deemed necessary.

8. In conclusion, I am to request that the Government of India may be favoured as soon as possible with an estimate of the proportion of failure of kharif and rabi crops in each taluka, and of the amount of land revenue which is expected to be lost.

Telegram, 11th November 1876.

From SECRETARY, Bombay, Public Works Department, to REVENUE SECRETARY, Simla.

Your telegram of 9th. This Government wish to point out that, by their telegram of 16th October, the Government of India stated that the Government were authorised to incur such expenditure in providing work and relief in the distressed localities as they might consider necessary to meet the emergency, avoiding large projects which would involve the continuance of heavy expenditure after the emergency had ceased. This Government accordingly made a very careful selection of the works which would probably afford the greatest amount of relief, observing as far as possible the principle just adverted to; the essential conditions of geographical distribution and water-supply being kept in view. They stated distinctly that they had no intention of beginning all the works simultaneously, but that the scheme was sanctioned as a whole, in order that the local officers might be prepared to act as soon as the emergency arose. They likewise endeavoured, as they are still doing, to employ the people, as far as possible, on purely local works, but these have been in a great measure exhausted, whereas pressure for employment much increases. The President in Council now disallows specific works, some of which have, under the existing pressure, been already commenced. Every day brings urgent applications for others. Does the President in Council desire works which have been commenced to be stopped, and the applications for others to be refused? Does he withdraw the authority given by Government of India in the telegram 16th October?

Telegram, 17th November 1876.

From REVENUE SECRETARY, Calcutta, to SECRETARY, Government of Bombay.

Your Government Resolution, No. 6,230, of 31st ultimo. If his Excellency in Council thinks it advisable to throw open, as free grazing grounds for the distressed districts, such forest reserves as may be conveniently situated, and not likely to be permanently injured thereby, the Government of India have no objection.

No. 1,599A.

From the SECRETARY TO THE GOVERNMENT OF MADRAS to the SECRETARY TO THE GOVERNMENT OF INDIA.

7th November 1876.

1. In my telegrams of the 24th and 27th ultimo the distressed condition of Kurnool, Cuddapah, and Bellary, consequent on a scanty south-west monsoon, was briefly reported; with a short statement of the measures adopted, and those proposed to be carried out in future, in the event of the total failure of the north-east monsoon.

2. In the telegram of the 28th ultimo the Government of India ask for more specific and full information regarding the areas affected, the extent of cultivation, rainfall, prices, &c. These will be shortly submitted; in the meantime, I am directed to place before the Government of India such particulars as are already

to hand; and which will allow of a tolerably fair idea being formed of the extent of distress prevailing in this Presidency, and the measures inaugurated for affording relief.

3. In Bellary* the western taluqs—Harpunhally, Huvinhudgally, and Kudlighy—suffered severely from want of rain last year. The cholum crop, which is their staple, was barely saved from destruction by

*Area.	Population.	Land-revenue.
11,182.	1,668,000.	25 $\frac{3}{4}$ lakhs.

a late fall of rain. In the present year, the south-west monsoon, due to commence in the first week of June, failed to so great an extent that no water was received into the tanks, and the early dry crops were either left unsown or withered before they came to maturity. The failure was very general, and by the month of September the indications of distress were so clear that the Collector sought permission to open relief works. These were accordingly opened in several directions; and the resort of large numbers to them, including respectable ryots and heads of villages, notwithstanding the low rate of wages fixed, showed unmistakably that the distress was very severe. The distress gradually extended eastward to the neighbourhood of Bellary Town, and thence to the whole district, as the failure of the south-west monsoon became more and more apparent.

4. In Kurnool†, where want of rain, with the consequent restriction of cultivation, has led, as usual, to scarcity of food and high prices, a marked increase in crime has manifested itself. In Markapur and Cumbum

†Area.	Population.	Land-revenue.
7,676.	960,000.	15 lakhs.

relief works have been set on foot, and it is hoped that the circulation of money by this means will cause grain-sellers to open their stores, as when money is scarce they are naturally disposed to hold back rather than sell on credit, as they would certainly be pressed to do if their shops were open. As far as present information helps to form an opinion, the general impression is that there is grain in Kurnool, is not absolutely deficient but it is at present withheld.

5. Cuddapah‡ shares the general distress which prevails in the above-mentioned districts. The failure of the last north-east monsoon proved disastrous to the wet cultivation in the district, but the dry crops were

‡Area.	Population.	Land-revenue.
8,050.	1,351,000.	19 $\frac{1}{2}$ lakhs.

to a great extent saved. The subsequent failure of the south-west monsoon rains of this year, however, has affected the latter most seriously. The sub-division, separated from the rest of the district by ranges of hills, and without any railway communication, is the most backward portion of the province, and every endeavour is being made to afford relief to the people by providing them with employment and encouraging importation of grain.

Besides these three districts some distress has shown itself in portions of Salem, North Arcot, and Nellore.

6. In my letter, dated 4th July 1876, No. 900, the unfavourable character of the season last§ year, and the condition of some of the districts, were described. The

§1875-76.

accounts received for the last fasli year show that there was a falling off in land-revenue of upwards of 30 lakhs of Rs. as compared with the previous year, and that the decrease was apparent chiefly in Bellary, Chingleput, North and South Arcot, and Tinnevely. More detailed information in regard to the revenue and agriculture of last year will hereafter be furnished. The subject is here referred to, to show that as the present bad season succeeds one which was by no means favourable, the effects now experienced are far more serious than they would otherwise have been.

7. The measures adopted for affording relief in the districts where distress prevails are as detailed below:—

Before the failure of the south-west monsoon was definitely known, the unfavourable character of the previous season had served as a warning, and in view to be prepared beforehand in case the rains of June and July should happen not to fall as usual, lists of relief works were called for in April from the various districts, so that they might be fully considered and decided on, and the works selected set on foot on the shortest notice. Matters were accordingly put in readiness for prompt action in case of emergency, and the condition of the districts was being narrowly watched. On the first indications of distress being reported, Mr. Thornhill, senior member of the Board of Revenue, was deputed to the affected tracts. He returned, after a tour in Cuddapah, Kurnool, and Bellary, at

the close of last month. His report, and the order of Government thereon, are herewith submitted for the information of the Government of India. He has now

G.O., 30th October 1876, No. 1,529.

started on a second tour through Cuddapah and Bellary; while another member of the Board, the Hon. David Arbuthnott, who is well acquainted with Kurnool, has been deputed on special duty to that district. These deputations leave the Board with one member at Madras; it has been found absolutely necessary to call up an additional member, and Mr. Puckle, Director of Settlements, has been selected for this duty; he will continue to carry on the work of his own department, and the expense will be small. The reports already received show that relief works have been organised on a sufficiently extensive scale to provide employment to the large number of people who flock to them. They are generally minor works of local utility, such as construction of wells, tanks, roads, repair of roads, &c., which do not require much skill. To control large bodies of men thus employed in various places, and to direct, guide, and pay them regularly, additional European officers* have been appointed; while native agency has been increased to

*Mr. Price, C.S., for Bellary,
Mr. Spencer, C.S., for Cuddapah; and Mr.
Swan of the Police.
Mr. Gibson, for Kurnool.

relieve Tahsildars of their magisterial functions, in view to their giving undivided attention to the supervision of the relief operations entrusted to them. Crimes against property are, of course, prevalent; in

Kurnool especially some very serious dacoities have occurred; the town is full of budmashes, to overawe whom a wing of a native regiment has been ordered to proceed there forthwith. The police force has, meanwhile, been strengthened where necessary; and large additions made to the staff of Public Works officers. The number of people employed on relief works in the Bellary District alone

† Viz., at or near Bellary	- 43,500
In the taluqs	- 51,600

is returned at 95,100† per diem; while food is distributed to 7,000 paupers, who are physically incapable of labour.

8. The necessity for economy is kept in view; and every endeavour made to prevent expenditure from becoming unduly large or wasteful. Unfortunately, the state of the provincial funds in this Presidency does not permit of any outlay from that source to the relief of Imperial funds; while, as to local funds, the land-cess (the principal item) is entirely dependent on the land revenue, on which it levies a per-centage. The contributions from provincial funds, usually made to Local Fund Boards in consideration of the transfer to the latter of works which were formerly a charge on the general revenues, have been considerably reduced during the current year; and this has materially crippled the resources at the disposal of those local bodies. Already nearly 6½ lakhs of rupees have been sanctioned, of which upwards of four lakhs appertain to Bellary.

9. Hope is still entertained that the north-east monsoon may yet set in and take large numbers of the ryots back to their fields. Ten days' time is necessary before we can pronounce on the exact magnitude of the calamity that now threatens this Presidency. In many parts, all chance of the people deriving immediate benefit from the rains that may hereafter fall is believed to be lost; and it is now considered too late in some parts for the monsoon to do much good even if it did set in. It would appear that when the north-east rains fall, cholam can be sown in the black lands of the ceded districts up to November, and if a good crop is obtained considerable relief will follow; in the red soils it is too late for any dry crop, except horse-gram and other pulses. Mr. Thornhill writes: "Three months paddy or raggy may be sown where tanks of any capacity receive a supply; this will afford employment to the people for some three or four months; but, as the staple food-grains (cumboo and dry raggy) cannot be reaped until the following August, it is possible that some relief may be required in the red-soil taluqs during the next hot weather."

10. Mr. Thornhill's observations apply only to the ceded districts. In the southern districts of Madura, North and South Arcot, Salem, Chingleput, the scanty fall of rain during the last monsoon has raised a partial crop of paddy. In some localities the usual average out-turn from cumboo and varagoo has been secured. This has operated to prevent real serious distress in the districts concerned up to date; but latterly the aspect of affairs is fast changing. High prices are ruling, and continued drought is leading to the gradual abandonment of cultivation. In Tanjore, with the commencement of the south-west monsoon on the west coast the Cauvery received its usual freshes; and, till recently, the agricul-

tural operations of this most important of our southern districts proceeded satisfactorily; but now famine prices have set in, and unless rain falls immediately, and the rivers receive accession of water, the standing crops must wither and die. The same is more or less the case in all river-irrigated eastern districts. On the west coast the south-west monsoon rains, although not so heavy as usual, have not produced any serious decrease of cultivation. The delta districts of Godavery and Kistna, with the exception of the uplands, are fairly prosperous, and supply grain to the greater part of the Presidency. Ganjam and Vizagapatam have not suffered from the last season, which was not particularly bad in those districts.

11. Floods have been reported from four districts, South Canara, Kistna, Vizagapatam, and Ganjam, but no serious damage has ensued from them to the crops.

12. The most noteworthy feature of the times, and one which intensifies distress wherever it prevails, is the series of prematurely high famine prices which has begun to rule everywhere. The last returns from the three districts of Cuddapah, Bellary, and Kurnool show the prices of the chief staples as noted below, but telegraphic information shows that they are still rising. The rates which prevailed during the famine year 1866 are shown for comparison. They are not available for Kurnool.

	Rice, Second Sort.			Cholum.			Raggy.		
	This Year.	Last Year.	1866.	This Year.	Last Year.	1866.	This Year.	Last Year.	1866.
Cuddapah -	5½	11½	5¼	7½	17½	9	8	20½	9½
Bellary -	6¾	16	6	8¾	18¾	8½	10½	27½	9
Kurnool -	6	10½	—	8½	17	—	10½	19½	—

NOTE.—The figures denote the number of measures per rupee.

13. Information giving the particulars regarding relief works, the areas cultivated, the loss of revenue anticipated, &c. will be shortly submitted.

I have the honour to be, &c.

No. 30 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Calcutta, 24th November.

1. In continuation of your Despatch of the 17th instant, relative to the scarcity in Western and Southern India, we beg leave to forward, for your Lordship's information, copies of the communications specified in the margin.

Letter from Resident at Hyderabad, dated the 11th November 1876.

Telegram from ditto, dated the 19th November 1876.

Telegram to Government of Bombay, dated the 15th November 1876.

Telegram from ditto, dated the 17th November 1876.

Telegram to ditto, dated the 18th November 1876.

Letter from ditto, dated the 11th November 1876.

Letter to ditto, dated the 24th November 1876.

Letter from the Government of Madras, dated the 13th November 1876.

Telegram to ditto, dated the 20th November 1876.

Telegram from ditto, dated the 23rd November 1876.

Telegram to ditto, dated the 24th November 1876.

Memorandum from Foreign Department, dated the 16th November 1876.

2. The only matters in this correspondence to which we deem it necessary to draw your Lordship's special attention are the application made by the Government of Madras in their telegram of the 23rd instant, for permission to purchase a further supply of 20,000 tons of grain, and the orders reported by the Government of Bombay in their letter of the 11th instant, concentrating in the Public Works Department of their Secretariat, the whole of the correspondence relating to the scarcity. The reasons which lead us to regard the last-mentioned arrangement as open to grave objections are fully stated in our letter to that Government of this date.

3. Your Lordship will observe, on reference to the telegram which we have this day addressed to the Government of

Madras, that we have not considered ourselves justified in permitting that Government to make the large additional purchase of grain which they propose, without being furnished with more specific and detailed information as to the condition of the Madras Presidency than is at present in our possession. We find it impossible to reconcile their recent action and their present proposal with the great activity of private trade in grain, to which allusion was made in their telegram of the 9th instant, and which is the subject of daily notice in the local newspapers; and we cannot but regard it as very unsatisfactory, that while making such an application the local Government should have omitted up to this time to furnish us with the full explanation of their recent action, which was called for in our telegram of the 11th instant. The letter from the Madras Government of the 13th instant, which we enclose in this Despatch, and which must have been written after the receipt of our telegram of the 11th instant, contains no allusion to the telegram in question, and contains no statement of facts which, in our opinion, can be regarded as affording any justification of the local Government having committed itself, especially in the present state of the Imperial finances, to so heavy an expenditure without the permission, and indeed without the knowledge, of the Government of India; and, although we repeated our call for such explanation on the 20th instant, there is no indication in the present telegram that it has been responded to.

4. So far as we can judge from the information before us, we consider the course upon which the Madras Government have entered to be one of very questionable expediency, and we are satisfied that important measures of the nature of that recommended by the Governor in Council should not be sanctioned upon the comparatively imperfect information which can be supplied in a telegram.

5. We trust that the course which we have thought it right to take in this matter will meet with your Lordship's concurrence.

We have the honour to be, &c.

No. 47, 11th November 1876.

From the RESIDENT AT HYDERABAD to the SECRETARY TO THE GOVERNMENT OF INDIA.

In continuation of my message dated 30th ultimo, I have the honour to forward, for the early consideration of Government, translation of a note from His Highness the Nizam's Government, soliciting a reduction in the railway charges on the transport of grain from the north-western provinces to Hyderabad.

2. The Minister has been informed that a reduction of quarter of the railway charge is ordinarily made in the case of consignments of grain under transport of not less than 5,000 pullahs (15,000 maunds), and he asks that a further reduction to the same extent may be made to meet the existing difficulties in this quarter; in other words, that consignments of grain to Hyderabad of the quantity above stated may be conveyed at half the fixed ordinary rates.

3. I venture to express an earnest hope that the question of facilitating, in the way proposed, the supply of grain to Hyderabad and the suffering districts generally in the tract between Madras and Bombay may be taken into early consideration by his Honour the President in Council.

4. Though there is reason to believe that the stores of grain in parts of this tract are not inconsiderable, in other parts there is undoubted scarcity, which can only be supplied by large importations from more favoured localities, the result of which has been a general and most alarming rise in prices, even in the latter, which is already causing very great suffering and distress.

5. In connexion with this subject, I beg to forward, for the information of Government, translation of an order issued under the Minister's directions forbidding the interference of the State officials with the free exportation of grain from the Hyderabad districts. I am informed that large quantities of grain have already been exported to the British districts from Hyderabad territory, and that the rise in prices in the latter is as much due to this drain as to the partial failure of the khareef crops and the fears anticipated regarding the failure of the rabi harvest from continued want of rain.

6. The Minister's request for a remission of the entire railway charge, on the Nizam's State railway, on consignments of grain of 5,000 pullahs and upwards, between Wadi on the Great Indian Peninsular Railway Line and Hyderabad, has been referred to the agent of the Great Indian Peninsula Railway Company, as its adoption will affect the existing arrangement with that Company for working the State railway.

7. As the present communication is of an urgent nature, I have addressed a message to you on the subject, of which I beg to enclose a copy.

TRANSLATION.

No. 3,269, dated 9th November 1876.

From the MINISTER TO HIS HIGHNESS THE NIZAM OF HYDERABAD to the RESIDENT AT HYDERABAD.

In continuation of my letter No. 3,220, dated 7th current, requesting to be supplied with a letter to the Benares authorities permitting the export of grain to the Hyderabad City, I have the honour to inform you that the scarcity of grain is being felt more day by day. The past season has been a very favourable one in Hindustan (Northern India), and large harvests have been reaped, and grain is very plentiful, and if assistance is rendered by Government large quantities will be imported. The merchants say, that according to railway rules a remission of one fourth fare is allowed when 5,000 pullas are being conveyed. They now submit for consideration the proposal to grant them a further remission of one fourth fare, thus reducing it to half, by which a greater impetus will be given to the importation. I would therefore request that, paying regard to the friendship existing between the two Governments, you will give this matter your favourable judgment; and taking into consideration the object in view, viz., the welfare of the suffering public, you will submit the proposal for the orders of the Government of India. Should that Government grant the prayer of the merchants it will confer a great obligation on His Highness' Government.

Should it not be found possible to sanction the remission now sought for by the merchants, I request that you will issue orders to the Great Indian Peninsula Railway authorities to remit the remaining three fourths of the fare on such consignments from Wadi to Hyderabad, charging to His Highness' Government the loss occasioned by such remissions.

I am of opinion that by adopting these measures the importation of grain into the country will be increased, and the present high rates will fall.

In conclusion, I beg that I may be favoured with an early reply, as it is my earnest desire to make some definite arrangements towards relieving the anxiety evinced by the public in connexion with the daily increasing high rates at present obtaining in the market before I start with His Highness for Delhi.

TRANSLATION of a RUBAKAR issued by the SECRETARY to the MINISTER in the REVENUE and MISCELLANEOUS DEPARTMENTS. (No. 2,006, dated 26th October 1876.)

In accordance with instructions issued by Madur-ul-Maham (Sir Salar Jung), the Minister of the Revenue Department, I have the honour to state, in consequence of the failure of rainfall, deficiency of water, dearness of grain, and scarcity of fodder for cattle, the public are very much distressed, and the removal of this direful calamity is entirely in the hands of a merciful Providence, as indeed there is no other help but that which comes from Him above. Yet it is incumbent on humanity to do something to alleviate, as far as lies in its power, the present far felt want. With this object in view, all officials of the Revenue and Public Works Department are directed to give special attention to the following orders of His Highness' Government in the matter of relief works, and it is earnestly hoped that the Revenue and Miscellaneous Minister will exercise an active supervision in carrying out to their fullest extent the wishes of Government on this subject.

ORDERS of the GOVERNMENT of the NIZAM OF HYDERABAD.

Government officials are hereby positively prohibited from interfering in any way with the fixing of prices of grain, &c., as it is found from experience that any interference in this direction tends to lessen the importation and sale of it.

Although it is the hearty desire of the Minister to see grain sold as cheap as possible, thus relieving the wants of those starving, yet he considers the practice of meddling with the rates of selling as highly objectionable. It is certain that if no interference is shown in fixing rates the grain merchants will, with greater confidence, expose their grain for sale, thus increasing the importation, whereby the prices will fall of themselves.

2. There is not the slightest doubt that the suffering public are anxious that the prices of provisions, which have risen high from failure of rain, should fall. It is, therefore, the duty of all officials to pacify them, as far as possible, and take proper steps to alleviate the immediate wants of such as are actually starving, as well as to relieve the anxieties of the public in general, as herein-after suggested.

3. In districts where the rainfall has been most scanty, and which are most famine stricken, it will be necessary to organise such unskilled relief works as making of roads, digging of wells and drains, and heaping earth on the banks of tanks; early submission of plans and estimates are called for. These plans and estimates must, however, be submitted in each case before sanction of Government can be accorded.

4. In organising such relief works consideration must be given to the following points:—That the work thus carried out improves the cultivation of the surrounding country, or facilitates the transport of grain and other merchandise from one locality to another, more particular attention being paid to such roads as will lead to an easy communication with railway stations.

5. In such districts as are not much affected by the famine, and where the necessity of organising relief works does not exist, such works need not be undertaken during the current year, but, instead, such works of importance as will benefit the public in general should be gone on with. Full orders on the subject have been issued in the Public Works Department.

6. It will therefore be seen that it is the incumbent duty of all officers belonging to the Revenue, Public Works, and Municipal Departments to supply, as far as possible, food to the starving, as well as to attend to the water supply of such places where its want is felt. Officers of the Revenue

Department must address the Public Works and Municipal Departments in regard to carrying out such works as they may deem necessary, endorsing their opinion on the plans and estimates received on such works from the Public Works and Municipal Departments before submitting them for sanction, so that Government may be fully informed of the necessity and utility of the work thus undertaken.

7. It has come to the knowledge of the Government that certain Revenue officials have interfered with the exportation of grain, while others are of opinion that Government aid should be called for in importing grain into the afflicted district. Such opinions, being wrong, should at once be removed, as on consideration it will be apparent that if the inhabitants of other parts of the country were similarly selfish, how much inconvenience would be felt by the public. The same consideration should be shown to the wants of others in such a matter as is desired by ourself.

8. It is highly desirable that all grain merchants may be fully made to understand the wishes of Government in this matter, and that it now becomes incumbent on them to do their utmost in increasing the importation of grain, and that in proportion to the trouble taken by them in this matter will depend the obligation they will confer on Government, and to the furtherance of this object the Government are willing to give all possible and proper assistance, if required by any merchant.

9. All Revenue officers are warned in affording such assistance that no undue advantage is taken of the indulgence thus proffered by Government by unscrupulous merchants in having their private transactions settled through the intervention of Government, but that all legitimate aid, which is in accordance with Government orders, and incurring no inconvenience to the public, may be afforded.

10. Orders of Government have been conveyed by the Secretary to the Revenue Minister to Public Works Department and the amaldar concerned regarding the prohibition placed on the irrigation and cultivation of the land under the Mia Sagar Tank, which orders must be carried out without any delay.

11. Orders have also been issued to the Public Works Department and the suburban talukdar directing the discontinuance of cultivation under the Husen Sagar Tank, and for preventing the wastage of water contained therein. These orders, it is hoped, will be carefully carried out. The water required for wet cultivation must also be disallowed. Should any loss accrue to any ryot by this step, consideration must be given to the convenience afforded thereby to the public, as well as to the object in view, viz., of storing up of water for drinking purposes. The village officials will submit accounts and pay compensation for such loss.

12. It is apparent from the revenue settlement of some villages, which has recently been effected by Moulvie Mahdi Ali, that the present rent of land is not higher than that of the surrounding country, but, on the contrary, below the average, but there are cases in which complaints of heaviness of rent on land are true. This is due to the land not having been properly assessed the consequence being that some tracts are over assessed, while others pay much less than they really should. These circumstances should also be taken into consideration, with the fact of failure of rainfall during last season, when Revenue officers are making collections.

13. The procedure indicated above should be adopted simply on the assertion of the village officers, but should be inquired into by the tahsildar and talukdar, whose reports should be submitted to the Sadar-ul-Maham for orders.

14. All officers of the Revenue, Public Works, and Municipal Departments will, within one month, submit detailed reports of the measures taken by them to ensure the proper management of the several districts under them in accordance with the wishes of Government.

Copies of above forwarded for information and guidance to the Miscellaneous Minister, all sadar talukdars, Nazim of the Sarf-e-kas, Amaldars in Nawab Mukhtar-ul-mulk's Jagirs, and Secretary to His Highness, Public Works Department, and for communication to those subordinate to them.

Telegram, 11th November 1876.

From RESIDENT, Hyderabad, Deccan, to REVENUE SECRETARY, Calcutta.

The Minister earnestly solicits that railway charge on consignments of grain of 15,000 maunds and upwards from North-West Provinces to Hyderabad may be reduced by one half, to facilitate importations by Hyderabad merchants from that quarter. I trust the question may receive early consideration; much grain has been exported from Hyderabad to suffering British districts, and Nizam's Government has forbidden any interference with, or obstruction to, such exportations. This drain has caused great rise in prices and much distress here.

Telegram, 19th November 1876.

From A. L. HOME, Esq., Simla, to REVENUE OFFICIATING SECRETARY, Calcutta.

Hyderabad Resident telegraphs to you: "My letter number 47, of 11th instant, and message of 11th idem, explained to Minister, who quite accepts the decision of the President in "Council."

Telegram, 15th November 1876.

From REVENUE SECRETARY, Calcutta, to SECRETARY TO GOVERNMENT OF BOMBAY, Public Works Department.

Your telegram of 11th. Please telegraph names of works already commenced which would be suspended under our telegrams of 9th.

Dated 17th November 1876.

From the SECRETARY, Government of Bombay, to REVENUE SECRETARY, Calcutta.

Your telegram 15th. Works already commenced; metalling Dhond-Nuggur Road, Sholapur, Sangola, and Sangola and Jutt Roads; metalling Hubli-Sunguttikop, Hubli-Anigherry Roads, Belgaum-Kaladghi Road by transfer from metalling Belgaum mail road. Irrigation works already commenced referred to in your telegram of 10th, Dumkul, Nehr, and Pingli tanks, Mhaswar and Ashtee tanks, and Krishna extension, urgently called for by local authorities, and on point of commencement. If Government of India will fix limit beyond which they are not prepared to supply funds in meeting present emergency in this Presidency, this Government will do the best they can up to that limit; but it is hoped that specific works may not be indicated by Government of India, either for stoppage or execution, for character and position of relief works must depend on local circumstances, which vary rapidly. No road-works proposed will entail serious liabilities after emergency has passed. And, though irrigation works are heavier, they will prevent recurrence of similar future emergency in their neighbourhood.

Telegram, No. 417, 18th November 1876.

From REVENUE SECRETARY, Calcutta, to SECRETARY TO GOVERNMENT, Public Works Department, Bombay.

Your telegram of 17th. The President in Council does not consider the information before him sufficient to enable him to give instructions until receipt of the full explanation by letter asked for in our letter of 9th instant. Pending a further communication the Mhaswar Tank and Krishna Canal should not be commenced.

No. 119 P., Poona, 11th November 1876.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA.

I am directed by his Excellency the Governor in Council to acknowledge the receipt of your telegram of the 4th instant, as well as that of the letter from the Financial Department, No. 3,741, of the 31st October, relative to the temporary appointment of a third Revenue Commissioner for this Presidency, in consequence of the present scarcity.

2. In reply to the telegram, I am to explain that it appeared to his Excellency in Council undesirable, for a mere temporary purpose, to unsettle all the existing arrangements of so important an office, when conducted by so able and experienced an officer as the late Mr. Havelock; but I am to state that since that objection was taken to the measure this Government have unfortunately lost the services of that excellent officer, and as fresh arrangements must be made, involving the employment of officers of less experience, and who are not at present so well acquainted with the districts affected by the scarcity and with their general condition, his Excellency in Council is not disposed to incur the responsibility of declining the additional assistance which in this respect the Government of India have been good enough to offer. His Excellency has therefore nominated Mr. E. P. Robertson, Collector of Dharwar, to the temporary office, and no time will be lost in giving full effect to the arrangement.

3. I am to take this opportunity of stating that before the receipt of your letter, No. 365, of the 25th October, his Excellency in Council had become aware that it was absolutely necessary to follow the example of the Government of India, and to concentrate the whole correspondence respecting relief operations in one Department of Government; and fortified by the recommendation contained in the 16th paragraph of your letter, he has directed that concentration to be effected in the Department of Public Works. His Excellency in Council has, I am directed to say, resolved to work through the Public Works Department, instead of through the Revenue Department, because, from the character of the present difficulty, it is clear that relief to the people will have mainly to be afforded by means of public works, and the arrangements that must be made, and the numerous questions that will arise in connexion with these works, could not, without great loss of time, and probably also loss of efficiency, be dealt with in any other Department than the Public Works Department.

4. His Excellency in Council, bearing in mind the great increase of correspondence and work of every description which must thus be devolved on the Government in consequence of the scarcity, and the necessity of strengthening the Public Works Department for the time with the services of an officer specially qualified for the purpose, has appointed as a Supernumerary Under-Secretary, Mr. C. Macpherson, at present assistant to the Collector of Poona.

5. His Excellency trusts this arrangement, which he believes to be indispensable, will meet with the approval of his Excellency the Governor General in Council.

No. 435.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Calcutta, 24th November 1876.

I have had the honour to receive your letter, No. 119P., of the 11th instant, which, having been directed to Simla, only arrived the day before yesterday. In reply, I am directed to state that the President in Council is glad to learn that his Excellency the Governor in Council has deemed it proper to appoint an

additional Revenue Commissioner as a temporary measure, with the view of augmenting the administrative supervision available for the distressed districts.

2. I am to add a few remarks on the other subject referred to in your letter. The Government of India regard the concentration in one Department of the Secretariat, as far as may be practicable, of all correspondence relating to the regulation of relief operations as a very necessary measure, but they consider the selection of the Department of Public Works for that purpose to be open to grave objections, and likely to lead to serious difficulties in the future.

3. The inexpediency of directing such operations through the Department of Public Works was fully exemplified in the case of the Rajputana famine in 1869; and during the Orissa famine of 1869, and the Bengal famine of 1873-74 the entire direction and control of relief operations was exercised by the Civil Department of the local and supreme Governments, the Public Works Department acting as adviser on purely professional questions, and carrying out specific works when called upon to do so. A similar course has invariably been followed in the several famines of greater or less severity with which the Government of Madras has had to deal.

4. To be intimately acquainted with the circumstances of the people in all parts of their charges, to decide in what particular localities relief is required, and what the extent and the form of that relief should be, is essentially the function of the Collectors of districts, aided by their assistants and deputies, and acting under the supervision and direction of the Commissioners. It appears to be far more likely that these officers will, in their several grades, perform their functions with zeal and alacrity if they are left under the Department of the Government under which they habitually act, than if they are placed under another, which they will not unnaturally consider to be in some degree wanting in the special qualifications necessary for a due appreciation of their difficulties and duties. From the latter course it appears to the President in Council that considerable friction, involving detriment to the public service, may be expected to arise, especially where, as may in some instances be the case, the relations between local officers and the Public Works Department are already more or less strained.

5. As regards the Government itself, I am to observe that the Civil Secretariat, which in Bombay is represented by the Chief Secretary and the Departments at present under him, may be presumed to possess special knowledge of the nature of that above adverted to, and to be better fitted to deal with the majority of the questions submitted by the Commissioners and Collectors than the Department of Public Works. The Civil Department may be expected to view such questions from a broader standpoint, embracing finance and general policy, while availing itself freely of the advice of the Public Works Department on any engineering points which may happen to be involved.

6. I am to express the hope of the President in Council that the foregoing observations will receive the careful consideration of his Excellency the Governor in Council.

7. The appointment of Mr. C. Macpherson as a temporary measure is approved. The pay and allowances which it is proposed to assign to him should be reported.

I have the honour to be, &c.

13th November 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS to the SECRETARY
TO THE GOVERNMENT OF INDIA, Financial Department.

I am directed to confirm my cipher telegram of 4th instant, intimating that the very seriously threatening circumstances of part of this Presidency have compelled this Government to arrange for securing at present and holding a State reserve of 30,000 tons of grain, to guard against possible disaster and risk of great loss of life; and that the estimated cost of the transaction is 32 lakhs of rupees, of which the payment of five lakhs has been arranged by the Accountant General, under instructions of this Government, through the agency of the Madras Bank and the Calcutta Currency Office. While for the payment of 27 lakhs of rupees, by instalments of 4 lakhs a week for the following five weeks, including that of intimation, this Government rely on the Government of India; payment of the balance of seven lakhs being again undertaken by the Accountant General after the above period.

The purchase of the grain has been effected through the agency of Messrs. Arbuthnot and Co., who were confidentially employed by the Government of India in a similar manner in 1874, and the payments are to be made to their credit with the Bank of Bengal.

The transaction has been kept, as far as possible, a strictly secret one, and the reserve is intended to be held as an insurance, so far as it will go, against the possible catastrophe of failure of supply to the local market, by ordinary trade and private enterprise, or such an entire temporary withholding of stores by grain merchants as has already led to very serious inconvenience.

The bulk of the grain is intended to be used, if necessary, in payment of grain wages on relief works by the Collectors of the distressed districts, instead of their being forced to have recourse to the general markets where its supply may be inadequate or prices exorbitant.

Meanwhile, they are being encouraged to rely, as much as possible, on contracts with local dealers for the grain they require for relief wages, and are not informed of the existence of this reserve; which the Government trust it may not prove necessary to employ to the full extent for the special purpose, in which case any balance remaining in store will be resold.

The contingency of failure of supply is one which needs to be guarded against at all costs.

The letter addressed in the Revenue Department the Government of India to under date 7th instant, gives full details of the progress of this disastrous season, and the Government greatly regret to state that there is no longer room to doubt that distress, which is even now threatening to culminate in famine requiring extraordinary State measures, must for some months to come be experienced by the poorer portion of the population, and especially of the agricultural section in the district of Kurnool, Bellary, and Cuddapah, where the north-east monsoon rains have completely failed, after a very insufficient south-west monsoon fall and an inadequate north-east monsoon supply in 1875.

These three districts aggregate about 27,000 square miles of country, with a population of about 4,000,000, paying ordinarily a land revenue of about 60 lakhs, and throughout great part of them the crop has utterly failed, and the means of renewed cultivation are absolutely non-existent until sufficient rain falls.

The records of the meteorological observatory unfortunately preclude the hope that even if abundant rain fall on the east coast in the present month it will reach the distressed tracts in the Ceded Districts, and the Government are forced to the conviction that, until April next at earliest, large numbers of people who depend on agriculture for earning the means of daily life must be provided with work and wages by the State, on which also devolves the responsibility for ensuring the presence of a sufficient supply of food.

The numbers already employed on the State relief works are not less than 150,000 persons in round numbers, while there are some 10,000 more of aged and infirm folk and children, ordinarily dependent on these workmen, who are receiving from Government sufficient food to maintain life, under careful supervision to guard against fraud.

If it should unfortunately happen that the north-east monsoon rains finally fail extensively, the numbers dependent on State relief will very rapidly and largely increase to an extent which it is impossible to estimate, but which cannot fail to be of serious magnitude.

Telegram, No. 423, 20th November 1876.

From OFFICIATING REVENUE SECRETARY, Calcutta, to SECRETARY, Madras.

Your letter of 13th instant to Financial Secretary does not contain any explanation of the necessity for taking action without previous reference to Government of India. Please send full and immediate explanation by letter on this point. The action of the Madras Government seems inconsistent with the alleged activity of private trade as stated in your telegram of 9th instant.

Telegram, 23rd November 1876.

From CHIEF SECRETARY, Madras, to REVENUE SECRETARY, Calcutta.

In Ceded Districts quarter million already depend State relief. Serious distress arising in other districts. Distress increasing, and will increase for four or five months. Relief number will largely increase. Having considered capacity and capital of local trade and transport, and uncertainty of direction of trade with other contingencies, this Government considers provision

of moderate State reserve obtained at reasonable price essential to safety. No interference with trade contemplated, except in some pressing emergency.

Grain payments impossible on relief in many places, and reserves necessary where large accumulation of labourers remote from communications. Do not fear our allowing State stock to accumulate beyond absolute necessity.

We are, therefore, arranging purchase of 20,000 tons ; delivery and payment in equal portions, January, February, March. Arrangements to be decided Saturday.

We estimate can now secure this purchase not exceeding seven rupees six annas per bag, delivered Madras. Price last year five rupees, present price nearly ten. Every day now increases cost of even new crop, as magnitude of difficulty publicly realised. Cipher acknowledgment.

Telegram, 24th November 1876.

From REVENUE SECRETARY, Calcutta, to CHIEF SECRETARY, Madras.

Your telegram of yesterday. The Government of India cannot sanction any further purchases of grain until furnished with far more explicit and detailed information than that now before them regarding the condition of the Madras Presidency, and with the explanation called for in telegrams of 11th and 20th instant. Present telegram by no means clear, but it is not desirable that such important measures should be carried out on telegraphic information. A full and detailed explanatory statement should be sent by post. Government of India cannot reconcile present proposals with activity of private trade as reported in your telegram of 9th instant and in newspapers. Purchase contemplated must be postponed. Arrangement already made with Gillanders, Arbuthnot and Co., is known in Calcutta.

EXTRACTS from the DIARY of the AGENT TO THE GOVERNOR-GENERAL in Central India,
for the week ending 14th October 1876.

NATIVE DEPARTMENT.

No.	Date of Issue.	Abstract of Indore Durbar Intelligence.
22	8th Oct. 1876	The Sooba of Rampoor reported that 2,600 head of cattle had died in his district, and that the cultivators stood in need of some pecuniary assistance. The Maharaja sanctioned a grant of Rs. 9,000.
23	9th Oct. 1876	An apprehension of the rise in the price of corn owing to the famine in the Deccan induced His Highness to convene a meeting of corn-dealers, who were advised to lay in grain sufficient for the consumption of the whole year. The Maharaja expressed his willingness to advance them a lac of rupees, but the dealers said they had made their own arrangements and stood in no need of this aid. * * * * *
25	12th Oct. 1876	His Highness contemplates affording relief to the starving population of the Deccan through the Agent to the Governor-General. Raojee Gooria was directed to lay in grain to the value of one lac. An advance of Rs. 30,000 was sanctioned to be made to the cultivators of the Depalpoor District, on condition of their repaying the amount within three years, the cultivators having lost 3,160 head of cattle.

Revenue Despatch, No. 3, 5th January 1877.

From the SECRETARY OF STATE FOR INDIA to the GOVERNOR-GENERAL OF INDIA
IN COUNCIL.

1. The Despatch of your Excellency's Government, dated 24th November, No. 30 of 1876, relative to the scarcity in Western and Southern India, has been received and considered in Council.

2. Attention is specially drawn in this Despatch—

- 1st. To the intention of the Bombay Government to concentrate in the Public Works Department of its Secretariat the whole of the correspondence relating to the scarcity ;
- 2nd. To the proposal of the Madras Government to purchase 20,000 tons of rice.

3. Your Excellency's Government has stated its objections to the course which the Government of Bombay wishes to follow, but, before expressing a final opinion on the subject, I will await the reply of that Government to your Secretary's letter of the 24th November, No. 435 of 1876. It may possibly happen that the views expressed by your Lordship's Government may induce the Government of Bombay not to persevere with the proposed arrangement, but in unusual emergencies of so serious a character I should be indisposed to interfere with the discretion of the local Government, which seems, by the manner in which it has

addressed itself to the arduous and difficult work, to deserve all possible support and encouragement.

4. With respect to the action of the Government of Madras, I do not understand whether the 20,000 tons of rice which that Government proposes to purchase are in addition to or a part of the 30,000 tons which are alluded to in your Despatch of the 17th November. But, under any circumstances, I am of opinion that your Excellency's Government was right in suspending its sanction to the proposed measure in the absence of the complete information as to the state of the Presidency for which it had previously called.

I have the honour to be, &c.

(Signed) CARNARVON.

No. 31 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Calcutta, 1st December.

In continuation of our Despatch of the 20th ultimo, relative to the scarcity in

Letter to Government of Madras	-	dated 25th Nov. 1876.
Do. from ditto	"	19th "
Do. to ditto	"	29th "
Letter from Chief Commissioner of Mysore	"	8th "
Do. to ditto	"	27th "
Telegram to ditto	"	27th "
Do. from ditto	"	28th "
Letter from Government of Bombay	"	18th "
Do. to ditto	"	30th "
Telegram to ditto	"	25th "
Do. from ditto	"	25th "
Statistical statements regarding famine districts in the Bombay Presidency.		

Letter to Government of Bombay, dated 30th Nov. 1876.

in that Presidency, which is under consideration; but as sufficient details of the relief works in progress or contemplated have not been supplied, the reasons which, in our opinion, make it necessary that such details should be furnished have been explained in our Secretary's letter of the 25th ultimo. We have also requested that a complete review of the condition of affairs may be prepared and forwarded to us by the 15th of January next, similar to that which has, as will be presently explained, been called for from Bombay.

3. Your Lordship will observe that we have received a communication from the Government of Madras suggesting that their efforts to keep secret their operations for the purchase of grain will have been rendered futile in consequence of our telegram to them of the 11th ultimo not having been sent in cipher. In reply, we have explained that the course which was taken was, under the circumstances of the Government of India being in process of moving from Simla to Calcutta, unavoidable, and that there are no grounds for supposing that the transaction has become public from any other cause than its being in its nature practically incompatible with secrecy. Previous to the receipt of the letter in question from the Government of Madras, but after it was despatched, we had learnt, and had informed that Government, that the fact of their purchases had become known in Calcutta.

We may here take the opportunity of correcting an error of date which occurs in the 6th paragraph of our Despatch of the 17th ultimo, where we stated that the Madras telegram of the 4th had reached us on the 9th ultimo. This was a mistake. On the 9th ultimo our President received a telegram from the Financial Secretary, then on his way to Calcutta, communicating the fact of the Madras purchases, but the copy of the actual telegram from Madras did not arrive at Simla until the 11th ultimo.

4. The Chief Commissioner of Mysore has submitted an important correspondence, showing the measures which have been adopted under his orders for relief in that Province. We have approved generally of the instructions which he has issued, but have deemed it necessary to draw his attention to the objections to concentrating large bodies of labourers at a distance from their homes. We have also requested him to prepare and forward a general review, similar to that called for from Bombay, as will be presently explained. Your Lordship will observe that a statement made in the newspapers to the effect, that the Chief Commissioner had made large purchases of grain at Madras, turns out to be without foundation.

5. With reference to our letter, No. 806, of the 3rd instant, which we reported to your Lordship with our Despatch of the 9th, the Bombay Government state that they consider the general orders which they have issued regarding remissions to be sufficient; but we have pointed out that those orders do not provide for the cases to which our suggestion was directed, in which, if the existing law were enforced, the ryot's occupancy right and his necessary movables might be sold for arrears of land revenue attributable to the drought.

6. The transport of grain upon all the railways continues to be in excess of the capabilities of transport possessed by the various lines. The Government of Bombay state, in answer to our inquiries, that the Great Indian Peninsula Railway Company are doing everything in their power to meet the emergency. A similar inquiry addressed to Madras has not yet been replied to, but from a statement which appeared a few days ago in one of the local newspapers we gather that this subject has also engaged the attention of the Madras Government.

7. Our examination of the statistical statements submitted by the Government of Bombay having been completed, we beg leave to forward them for your Lordship's information, together with the instructions which, on consideration of them and of the weekly progress statements (which are submitted to your Lordship by the Bombay Government direct), we have deemed it advisable to issue. We believe a thorough review of the present position, and of the prospects for the future, up to the time when fresh harvests may be reaped, to be indispensable, in order to prevent either undue expenditure or unforeseen distress among the people.

8. We may remark, in conclusion, that the situation is such as to cause very serious anxiety from a financial point of view. From a telegram which has reached us from the Bombay Government since the preceding paragraphs were written, and a copy of which we enclose, it appears that the outlay on relief works is estimated at no less than 54 lakhs for the months which remain of the current financial year, and at 86 lakhs for the first seven months of the ensuing financial year. We trust that this estimate will prove to be greatly in excess of the actual expenditure, and we shall not relax our endeavours to limit that expenditure, as far as possible, to the necessities of the case; but the matter is one in which a great deal must be left to the discretion of the local Government, and we cannot now entertain any expectation that it will be possible to avoid an outlay, which in the present position of the finances will necessarily be most embarrassing. We have not yet received any estimate of the probable expenditure in Madras, nor any statement from either Presidency of the probable loss of revenue; but we fear that in both the loss of revenue will be very serious; and, in regard to Madras, we have now reason to apprehend that the area of distress will be considerably extended by the almost entire failure, up to the present time, of the north-east monsoon. The information which we have received from the latter Government has been hitherto much more scanty than that which has been furnished by the Government of Bombay; but we trust that the requisitions which we have addressed to the Government of Madras will lead to our being kept in future more fully and more regularly informed as to the state of affairs in that Presidency. It is probable that the local Government have kept your Lordship fully informed as to their proceedings; but, if so, they have not supplied us with copies of any of their Despatches. We have requested both Governments to send us, in future, copies of these documents as they are despatched. While the emergency is a very serious one in a financial point of view, and while it cannot fail to cause much distress, suffering, and loss to the people of the affected districts, we are glad to think that there is no reason to apprehend any serious difficulty in regard to the importation of food supplies into the places where they are needed, the grain trade in all parts of the country being most active.

We have the honour to be, &c.

No. 439, 25th November 1876.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF MADRAS.

With reference to your telegram of yesterday, and my reply of this date, regarding the details of relief works sanctioned and in contemplation, I am directed by the President in Council to explain that, as the relief expenditure will eventually, to such extent as provincial funds may be deemed unable to bear it, be supplied from Imperial resources, the Government of India consider

it necessary that they should be supplied from time to time with the fullest information on the subject, and that the operations should be conducted in general accordance with principles which meet with their approval.

2. In the similar case of the Bombay Presidency, the Government of India have directed that large projects which will involve heavy ultimate expenditure after the necessity for relief has ceased, as also such as will collect large bodies of persons at a distance from their homes, should be avoided. It is obvious that the works ought also to be proportioned in number or extent to the relative wants of the several taluks, and that they should be of such a nature as to employ a large proportion of unskilled, as compared with skilled, labour.

19th November 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS to the SECRETARY TO THE GOVERNMENT OF INDIA, Financial Department.

I am directed to acknowledge receipt of Sir Alexander Arbuthnot's telegram of 11th "en clair" from Simla, requesting that no further purchases may be made without previous reference to the Government of India.

I am to state that it is feared this abandonment of the cipher system will have rendered futile all the efforts this Government have made to keep their operations secret, so as not to discourage private dealers.

No. 456.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS.

Calcutta, 29th November 1876.

I am directed to acknowledge the receipt of your letter of the 19th instant, addressed to the Secretary to the Government of India, in the Financial Department, expressing the apprehensions of the Madras Government that the abandonment of the cipher system in the case of the telegram addressed to you by Sir Alexander Arbuthnot on the 11th instant from Simla, will have "rendered" "futile all the efforts this Government have made to keep their operations secret, so as not to discourage private dealers."

In reply, I am directed to inform you that the telegram in question was necessarily despatched in words and not in cipher. Your telegram of the 4th instant did not reach the President in Council at Simla until the 11th idem. By that time nearly all the offices had left Simla, and when Sir A. Arbuthnot's telegram was despatched no copy of the cipher code was available at that place. The President in Council was clearly of opinion that in the absence of stronger grounds than those assigned by the Madras Government, it was necessary to prevent, without a day's loss of time, any further expenditure of the nature of that which had been reported, and, under the circumstances, this could only be done by despatching a telegram "en clair." If any inconvenience has resulted from what has occurred, it is due to the action of the Government of Madras in carrying out, without any previous reference to the Government of India, and without, as would appear, any reasons for urgency, a measure which obviously required the previous sanction of this Government.

But the President in Council does not see the slightest grounds for supposing that any knowledge which may have been obtained by the public of the recent operations of the Madras Government has been communicated from the Telegraph Department. Experience shows that the contents of telegrams very rarely become public in this way. In the present case, as intimated in my telegram of the 24th instant, the fact of the purchases arranged for by the Madras Government, and several details connected with them, which could not have been learnt from Sir A. Arbuthnot's telegram, were known in Calcutta some days ago. The fact is that the nature of the transaction was incompatible with secrecy. Large purchases of grain cannot be made without their destination becoming known.

I have the honour to be, &c.

No. 7,958-132G., Bangalore, 8th November 1876.

From OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA, Foreign Department.

In continuation of my letter, No. 6,524-104G., of 3rd ultimo, I am desired by the Chief Commissioner to submit a further report on the condition and prospects of this province and Coorg, and the measures taken to alleviate the existing and anticipated distress.

2. In paragraph 5 of my letter above quoted, the Chief Commissioner expressed the hope that with the fall of rain which was then looked for, on the change of the monsoons, the loss of the standing crops of ragi, which were ordinarily harvested in this month, would be to some slight extent averted, and the ryots would be enabled to raise such minor crops as horse-gram, dhall, &c. This hope has unfortunately, however, not been realized, and no rain whatever having fallen in the interval, the result has been a total failure of the dry crops, except in a few isolated patches, where a moderate crop of 2 to 4 annas in the rupee may be harvested. The area of the tract affected has in consequence been largely extended, and may be said now to comprise the whole province, with the exception of the western taluks of the Nagar Division, where a fair rice harvest is anticipated, the taluks of the Mysore and Hassan districts, which are watered by irrigation channels, and a portion of two taluks in the south-west of the Mysore District, where the ragi crops have fared better.

3. To the distress arising from the failure of the dry crop cultivation is to be added that occasioned by the failure of water supply for the cultivation of the wet land crops (rice) under

tanks. These crops, which are known generally as "vyshak," are sown about October and reaped in May and June, and are dependent wholly on the larger tanks, which as yet, however, have received no supply of water.

4. A serious feature in the present circumstances of the country is the absence of pasturage and fodder for cattle, and the mortality among these has been disastrous; the loss in one district (Tumkur) in a single month being estimated at 11,400.

5. The distress has been greatly aggravated at the present time by the circumstance, which was adverted to in my previous letter, of this being the second year in which the country has suffered from a greatly diminished rainfall, and from a more or less general deficiency in the grain harvest. The Chief Commissioner has reason to believe, however, that there is a fair quantity of grain stored by the wealthier ryots, and available for purchase by Government for distribution in lieu of wages to labourers on relief works; but there are necessarily large numbers of the people who have been rendered destitute by a succession of bad seasons, and for the relief of these works of a suitable character have been for some months past in operation in several districts, and funds are now being allotted for the grant of the additional lakh of rupees sanctioned in your telegram of 20th October for carrying out similar works in the other districts.

6. With regard to the measures which have been adopted to meet this state of things, I am desirous to enclose printed copies of the Chief Commissioner's proceedings marginally noted. These papers will apprise the Government of India of the steps which have been taken as regards the alleviation of the distress and famine in one division (Nundydroog), and the general principles which have been laid down for the guidance of the executive officers, and also as regards the extent to which it has been found necessary at present to relax the Government demands on the ryots. On the latter point I am to observe that in the continued absence of rain the Chief Commissioner apprehends that it will be necessary to forego the claims of the Government, as regards the land revenue, to a further extent than here indicated; but, in view of the wide-spread character of the drought, and the disastrous loss of revenue which may be apprehended, the Chief Commissioner desires to act with deliberation, in the hopes that events may prove more favourable than can at present be predicted.

7. In the district of Coorg there has been hitherto no cause for apprehension, as up to September last the rainfall, though somewhat deficient, had sufficed for the standing rice crops. The failure of the rains subsequently, however, has affected these crops, and the Superintendent of Coorg reports that much loss has already occurred among them, and if no rain falls shortly the consequences will be very serious. Distress from high prices of food grains has already appeared among the people, and the necessity of commencing relief works in that locality will probably become necessary.

8. Among the measures of relief which the Chief Commissioner has found it necessary to adopt has been the grant of an extra allowance of Re. 1 per mensem to every salaried official on the permanent establishment of this province who is in receipt of Rs. 15 and under, and with respect to the local troops (Silladars and Barr Infantry) a compensation which has been fixed at 1 seer of ragi and 3 seers of horse-gram per diem, when such articles are selling above a fixed rate, was granted to all below the rank of commissioned officers. In both cases the concession has been limited, so as not to extend beyond the 31st December next; but the Chief Commissioner has no expectations that the price of food will fall sufficiently to admit of its being withdrawn for some months to come. I am desirous to solicit the sanction of the Government of India to these measures, which the circumstances of the time has rendered inevitable.

9. Lastly, I am to state that, at a public meeting convened by the Chief Commissioner at this station on the 1st instant, it was resolved to organise famine relief committees, whose operations would extend to the outlying districts, and in accordance with the instructions of his Honour the President in Council communicated by telegram, the local Government has promised to supplement the amount of private subscriptions by an equivalent grant.

No. G. 298, Bangalore, 26th October 1826.

From the COMMISSIONER OF THE NUNDYDROOG DIVISION to the OFFICIATING SECRETARY
TO THE CHIEF COMMISSIONER OF MYSORE.

In continuation of my letter, No. G. 290, of the 23rd instant, I have the honour to transmit copies of the reports received from the Bangalore and Kolar districts.

2. Mr. Ricketts did not send a tabular statement. So I have, to some extent, tabulated his report for more ready reference.

3. As matters are daily getting worse, and the ragi crop may be said to have almost entirely failed, there is every probability of the most serious scarcity throughout this division. I will not use the word "famine" yet, as a heavy fall of rain would bring on the later crops, and would give forage for the cattle and water for the population, but, in the absence of some additional rainfall within the next week or ten days, I shall begin to fear the worst. I have therefore drafted a number of proposals, which will, I hope, meet with the early and favourable consideration of the Chief Commissioner.

I. Permission to be given to sow cholam in the beds of all dry tanks, and to allow ryots to sink wells for irrigating the crop. The Government share to be one fourth, and to be at the disposal of the District Officer for distribution to the poor.

II. Wells to be sunk in the beds of all dry tanks, in the hope of obtaining thereby a supply of water for domestic purposes. These may be relief works.

III. The Irrigation Department to be directed to proceed with projects on as large a scale as their means will admit of in all taluks where they are now working.

IV. Railway embankments to be started on the line to Mysore, and at such points as may be decided on, without fear of taking up a bad line, between this and the border of the Shimoga District, via Tiptur, as the crops have utterly failed along nearly the whole of that line of country.

V. Permission to be given me to allot to the taluks, marginally noted, sums of Rs. 5,000, 3,000, 2,000, and 1,500 respectively per mensem, to be expended on relief works until such time as matters improve.

	Rs.
Bangalore	5,000
Hoskote	3,000
Devanahalli	3,000
Dodballapur	3,000
Srinivasapur	3,000
Sidlagatta	3,000
Magadi	2,000
Anekal	2,000
Closepet	2,000
Kankunahalli	2,000
Nelamangala	2,000
Malur	2,000
Chikballapur	2,000
Gummayakanpalaya	2,000
Kolar	1,500
Mulbagal	1,500
Gudibanda	1,500
Goribidnur	1,500
Betmangala	1,500

Total - - - 48,500

VI. To permit me, if the necessity should arise, to purchase grain through merchants at Madras or elsewhere and contract for its being laid down at certain central points where large relief works are going on for the purpose of paying in kind the poor who are employed thereon.

VII. If matters do not improve, the Munsiffs' Courts to be closed in the outlying localities, and the establishment to be placed under the Deputy Commissioners for the purpose of supervising relief works, each of these establishments being under the general supervision of their own Munsiffs.

Mr. Krishnaiengar has made some excellent suggestions on this point.

VIII. A liberal allowance to be granted monthly towards the maintenance of public kitchens at each taluk head-quarters for the purpose of feeding the very old, very young, and in fact those among the poorer classes who are unable to work. Half of all chattram and other feeding allowances in each taluk where feeding chattram, &c. exist to be

transferred to the public kitchens.

IX. In the case of tank repairs, I would further advocate that authority be given to suspend for this season taking "mutchalkas" from ryots for contributions.

4. Captain Ludlow's report will be transmitted as soon as it is received. In a demi-official he gives a bad account of the Tumkūr District, and has asked for 48 hours time to send in his report.

No. 741, Camp Krishnarajpur, 24th October 1876.

From the OFFICIATING DEPUTY COMMISSIONER, Bangalore District, to the COMMISSIONER, Nundydroog Division.

I have the honour to acknowledge receipt of your letter of yesterday's date calling upon me to report, within 24 hours of receipt of your letter, very briefly to the best of my ability, regarding the actual position of matters in each taluk of my district, and in reply to state as follows:—

II. Matters are beginning to assume such a critical aspect throughout the whole district that what has to be said of one taluk applies almost equally to all the other taluks.

III. In every taluk, save perhaps Dodballapur, there are or have been patches of fair cultivation, alternated by patches of entire failure, and on the whole the ragi crop of the entire district may be estimated at not more than one eighth of an average year.

IV. Hopes were entertained that late rains might save much horse-gram, tuvar, ballar, and the like grains; but it would seem that these hopes are fated to be disappointed, and if this unhappily turns out to be the case we shall, in addition, have no such crops at all, and consequently the people will be liable to all the horrors of a water famine if suitable measures be not taken at an early date.

V. It has been stated by good authority that the Indian labourer and petty ryot live almost from hand to mouth, and consequently there is hardly a line of demarcation between scarcity and actual famine. Such scarcity, almost synonymous with famine, has in my deliberate opinion already set in, and the continuous absence of rain forbodes a far worse state of affairs ere long. If further proof of this statement be wanted, I submit it is plainly indicated in the present ruling price of the chief foodgrains.

VI. In my opinion relief works are urgently required in every taluk, and that from 2,000 to 3,000 rupees at least will be required monthly in each taluk, to begin from the 1st of November and to end when next year's rains have fairly set in to an extent to restore confidence and lower prices.

VII. The first thing, as soon as money is available, is to sink numerous wells in places where there is scarcity of water, or even none at all. Then earthwork labour of a kind at which all can work will be required to be furnished, and minor work, such as collecting and heaping gravel for road repairs and the like.

VIII. If, however, the district be not favoured with rain ere long, even the above suggestions and money expenditure will be far from sufficient, and some large works must be inaugurated which will give daily wages to thousands of people. Such works cannot be carried out by the district officer. He is already being overwhelmed with criminal work, and his free moments hampered by the necessity of trying large gangs of dacoits only in such places where they can be conveniently guarded, fed, and lodged.

IX. As very large sums of money will have thus to be expended to give such employment to the destitute as will serve to keep them and their families alive, it would seem highly advisable to utilize the labour as far as possible on some work that will be permanently useful. A work of this nature, and which will be national in its benefits, is the commencement of the earthwork for the Mysore Railway. This undertaking admits of thousands being employed on it. The rumour of the starting of the work will attract the poor and starving to it from miles around, and with labour and supervision so concentrated, grain payments and other famine relief operations

can be systematically carried out. At present along the proposed line there is much scarcity, especially at and around Bidadi. The money expended on this work will be gain rather than loss. In fact, I know of no work which will enable the Government to grapple so satisfactorily, both as regards extent of country and number of people to be benefitted, with the famine which is now steadily but surely setting in.

X. Kitchens have been established at some of the kasba towns, and in which thousands have been fed, but some of these are now being closed, just as they are most wanted, for lack of funds. It will be necessary for Government to encourage the revival of the same by promising contributions to the extent of the money raised by private efforts. And, as regards the town and cantonment of Bangalore, the initiative, I humbly conceive, should be soon made by convening a public meeting.

XI. It will not be advisable, in my opinion, to purchase in the local markets and make grain payments; for if this were generally resorted to local traders would considerably enhance their prices. In the event of a large work of great magnitude being undertaken, then it would be expedient to import the necessary grain from foreign markets and distribute it through means of a suitable agency.

XII. There are certain other comparatively minor, yet still important, points in connexion with the famine which require special consideration. It is particularly necessary to restore confidence among the monied and influential classes who reside in kasba and other large towns in the interior. At present the lawless and even the poorer classes are aggravating the existing scarcity by demanding loans of money or of grain of these well-to-do men; and, in alarm, the latter lessen their transactions, or even begin to leave their homes for Bangalore. This is a serious evil, and can be best met, I think, by strengthening the hands of each Amildar by the location of a Biradari of Siledars at each kasba, where there are none now, and also by the addition of 10 or 12 sepoys to each Kasba Treasury Guard.

XIII. In addition to this, I would beg strongly to recommend the very early, if not immediate increase of the police force by some 30 men in each taluk. Already the number of gang robberies that are being committed tax the energies of the police to the utmost, especially in guarding and escorting such large numbers of prisoners. Prevention is at all times better than cure; and even in an economic sense the money will be well expended, as being the means of deterring gang robberies, and which, when committed, end in the sending to jail of a large number of men there, not only to be fed at the cost of Government but also to be guarded.

XIV. Village Totis and Talaris in ordinary seasons are fairly trustworthy; but as famine goes on the police cannot expect much aid from them, as many of their number, it is feared, will be conniving at crime, whilst the remainder will be pinched from want and partial starvation.

XV. I have issued a circular to Amildars which I trust will meet with your approval, viz., to do all in their power to induce ryots to sink temporary wells or ponds in tank beds, so as to be able to raise some cholam crop, &c., for food as well as fodder. This to be done on "Batayi," but Government only to take one fourth, instead of the usual half, in consideration of the ryot's labour in sinking such wells.

XVI. I have also issued another circular to the effect that ryots can hardly promise contributions at this season, and that Amildars should send in as many estimates for tank repairs as they can, without the usual preliminary of taking contribution "mutchalkas."

XVII. I have necessarily had to write in haste, but the subject matter of this letter has been under my consideration for some time past.

No. 1,577-504, Kolar, 24th October, 1876.

From the DEPUTY COMMISSIONER, Kolar District, to the COMMISSIONER, Nundydroog Division.

As directed in your circular, No. 329, of the 23rd instant, I have the honour to submit a tabular statement, in the form prescribed by you, showing the condition of the different taluks of the district, the relief works already started, the amount required for those to be started hereafter, and the number of poor at present fed in each taluk.

2. I exceedingly regret to state that though ragi was extensively sown in this year it has almost failed in every part of the district, and if it can be at all harvested in any locality it will be so scanty and insufficient even for the consumption of the grower himself for a few months. The wet crops have been cultivated under very few tanks, and these too have almost hopelessly withered, except those irrigated by wells and river channels, which are very limited.

3. Ballar, tuvar, and kulthi (horse-gram) are up to this date in a pretty fair state, but their out-turn depends upon future rain and dew.

4. The water supply for domestic purposes is also very scarce, as all the tanks are dried up, and much difficulty is already felt in procuring forage.

5. It therefore appears to be necessary that relief works should be started on a large scale in every taluk of the district, and measures should be adopted for water supply. Several projects having been submitted by the Irrigation Department for works in the taluks of Kolar, Betmangala, and Srinivasapur, I beg that early sanction may be accorded for commencing these works without delay, and for employing on them the able-bodied poor, instead of giving them to anybody on contract. In other taluks also it appears to be advisable to undertake the tank repairs as relief works, for it will not only give employment to the able-bodied poor and improve the tanks, but also enable us to provide water for domestic purposes by sinking large wells in the beds of tanks where springs could be found generally.

6. In his order, No. 6,960-162, dated 14th instant, the Chief Commissioner has been pleased to direct that in those taluks where the pressure of want is already severely felt, no time should be lost in procuring supplies of grain (ragi) for issue to the labourers at the equivalent of one

seer for two annas in cash, and in your Circular Memorandum, No. 320, of the 17th idem, it has been directed that payment in kind should be started without a moment's delay wherever practicable. In order to carry out these instructions it appears to be necessary to import grain, as there is very little of it in the country, and what is exposed for sale in the local markets is mostly imported. If we purchase such imported grain from the local merchants in large quantity we will have to pay exorbitant price demanded by them, and the public may also suffer, as the merchants' store will be soon exhausted. Under these circumstances, it appears to be desirable to make arrangements for the grain required by the Government for issue to labourers to be imported from such places where it could be had cheaper than in the local markets, and stored in one or two localities in each taluk where relief works are extensively carried on.

7. These relief works will be so numerous and scattered all over the taluk that it is next to impossible for the Amildar, with his ordinary establishment, to manage them properly, and it is therefore necessary that some special arrangements should be made. In doing this it would be advisable to utilize the services of some other permanent establishment, instead of entertaining temporary hands, on whom it is difficult to place much reliance in matters of considerable expenditure, and the establishment which may be employed on these works without any inconvenience is, in my opinion, the civil. At this time of scarcity people would not mind resorting much to the civil courts, and there would therefore be no harm if the civil work is put off for a time.

8. I would, under these circumstances, beg to submit for consideration whether the Munsiffs may not be vested with 2nd class magistrate powers, and authorised to transact the headquarter duties of the taluks where they are now located, superintending the relief works and feeding kitchens started therein, and attending at the same time to any urgent duties of their own courts. This arrangement, if approved of, will obviate the necessity of any extra expenditure to the State in the shape of establishment, place at our disposal several of the clerks and members of the process establishment for employment on relief works, and enable the Amildars to move about constantly in the country, which is very necessary not only for superintending the relief works, but also for ascertaining correct information about the state of crops in different parts of the taluks where we may have occasion to grant remissions.

9. As regards the feeding of the poor who are unable to work, the people have hitherto very liberally contributed to the public kitchens, and maintained them; but I fear that they will not be able to continue long, and therefore the Government will have to undertake this charity, for which purpose it would be necessary for the present to give a monthly grant at least of Rs. 200 to each taluk.

10. If the north-east monsoon also unfortunately fails there is no hope of improvement in the condition of the country till June next, by which time we may expect kambu or sajjie crop, if the succeeding south-west monsoon or mungar rain sets in early. I have in the meantime issued orders, as a precautionary measure, to have javari sown at once in such beds of small tanks incapable of containing water for Vaisak as are still wet enough to admit of the seed being sown, and to do the same as regards other tanks, the beds of which are now quite dry and hard, as soon as some rain falls sufficient to moisten the ground. This, if all goes well, as I hope, will supply javari about February, and might mitigate the present distress to some extent.

No. 7,414-167, Bangalore, 27th October 1876.

ORDER thereon by the CHIEF COMMISSIONER OF MYSORE.

The Commissioner of the Nundydroog Division submits reports from the Deputy Commissioners of Bangalore and Kolar Districts, describing succinctly the present condition of those districts, and the measures proposed for mitigating the effect of an almost complete loss of the ragi (dry) crops, as well as of the rice crops under tanks.

2. The failure of the north-east monsoon at a time when it may have been looked for has proved most disastrous, and the Deputy Commissioners apprehend that, if no rain falls shortly, the loss of the ragi crop will be followed by that of gram and other minor crops which have been sown. The water-supply for domestic purposes is reported to be failing, and forage for cattle difficult to obtain.

3. The measures with which it is proposed to meet the existing scarcity and impending famine are embodied in the Commissioner's letter, and will be considered *seriatim* :—

I. Permission to be given to sow cholam in the beds of all dry tanks, and to allow ryots to sink wells for irrigating the crop. The Government share to be $\frac{1}{4}$, and to be at the disposal of the District Officer for distribution to the poor.

II. Wells to be sunk in the beds of all dry tanks in the hope of thereby obtaining a supply of water for domestic purposes. These may be relief works.

III. The Irrigation Department to be directed to proceed with projects on as large a scale as their means will admit of in all taluks where they are now working.

IV. Railway embankments to be started on the line to Mysore, and at

4. The Chief Commissioner approves of this measure, excepting as regards the disposal which Colonel Pearse proposes to make of the Government $\frac{1}{4}$ share of the batayi crops. It is observed that the Deputy Commissioners have already taken steps to have water-holes excavated in tank beds wherever practicable.

5. This proposal is apparently embraced in the preceding one. The Chief Commissioner considers that relief works should not at this time be too scattered, but should be selected with reference more particularly to the means available for effective supervision.

6. This proposal will be referred to the Secretary, Department Public Works, for disposal under the Chief Commissioner's orders, which have already been issued in the spirit of the recommendation here made.

7. This proposal, which has already been considered by the Chief Commissioner, has much to recommend it,

such points as may be decided upon
* * * between this and the border
of the Shimoga District *via* Tiptur
* * *

V. Permission to be given (to the Commissioner) to allot to the taluks marginally noted sums of Rs. 5,000, 3,000, 2,000, and 1,500 respectively, per mensem, to be expended on relief works.

VI. To permit the Commissioner to purchase grain, if the necessity should arise, through merchants at Madras or elsewhere, and contract for its being laid down at certain principal points where large relief works are going on for the purpose of paying in kind the poor who are employed thereon.

in affording employment for large bodies of those who are willing to work, and in concentrating relief works to a great extent. But, even if the preliminary difficulties to such an undertaking be removed, the Chief Commissioner entertains considerable doubts whether it will give relief to those who are more especially in need of it, *i.e.*, the ryot classes, who will not leave their villages and fields and seek work at a distance. The subject will, however, receive further consideration in the Public Works Department.

8. The proposed allotments, amounting for two districts only to Rs. 43,500 monthly are, altogether excessive, and the Chief Commissioner is satisfied that such sums, if granted, would not be properly expended. The Government of India have been asked, by letter some time since, and again very recently by telegram, to sanction a further grant of one lakh of rupees for relief works, and on receipt of sanction, appropriations will be made, either in renewal of assignments recently made when the amount is nearly expended, or on fresh projects, on the Commissioner's application. In the meantime the Chief Commissioner will be prepared to make a suitable grant of funds for relief works in taluks, on receiving from the Commissioner some detail of the manner in which it is proposed to expend them. The grants recently made for works in the division must still be unexpended, but the necessity has clearly arisen for extending the area of these operations.

9. This proposal raises an important question, *viz.*, the extent to which the Government can interpose to buy grain in the market for expenditure on its relief works. The Chief Commissioner learns that rice and other food grains are being imported into Bangalore at the rate of 700 to 1,000 tons per diem, chiefly for removal into the districts. The principal markets are understood to be well supplied, but in out-lying taluks there is, undoubtedly, a difficulty in bringing grain to the market, owing to a general feeling of insecurity among dealers, as well as owners of grain, and the fear of their stocks being broken into by bands of desperate men. The Chief Commissioner has reason to believe that these stocks are available for purchase at moderate rates, if suitable measures be taken to protect the holders against violence, and to remove the grain to places where it can be securely stocked for distribution either on relief works or at public kitchens, where such have been opened under Government or other adequate supervision, and conducted on proper principles.

10. In order to effect the object in view, the course that best commends itself to Mr. Saunders is, that tenders should be invited by the Commissioner or Deputy Commissioner for delivery of a specified quantity of grain, whether rice or ragi, or both, at certain centres in each district, in proximity to large relief works in progress or in contemplation. The tenders should be notified also in the taluks, and should be accompanied by a promise to afford due protection to the conveyance of the grain while *en route*. It will be necessary that the localities where the Government granaries may be established should be selected with regard to the means of transport and other considerations, to be considered by the Commissioner, in conference with the Deputy Commissioners, and no delay should occur in carrying them into effect. The amount required for the purchase of the grain will be advanced from the Public Treasury, on application to this Office, and adjusted hereafter as an allotment from the relief grants.

11. Mr. Saunders is desirous that no measures should at this crisis be adopted which will in any way militate against the principles of free trade; for if the idea should get abroad either that the Government have taken upon itself the direct responsibility of regulating the demand and supply of grain, or that they have any intention of buying up grain on an extensive scale to sell it at a lower rate to the ryots than the local merchants can afford to do, and thus to compete with them in the exercise of

VII. If matters do not improve, the Munsiffs' courts to be closed in the outlying localities, and their establishments to be placed under the Deputy Commissioners for the purpose of supervising relief works, &c.

VIII. A liberal allowance to be granted monthly towards the maintenance of public kitchens at each taluk head-quarters for the purpose of feeding the very old, very young, and in fact those among the poorer classes who are unable to work. Half of all chat-tram and other feeding allowances in each taluk * * * to be transferred to the public kitchens.

IX. In the case of tank repairs the Commissioner advocates that authority be given to suspend for this season taking "mutchalkas" from ryots for contributions.

16. The proposal of the Deputy Commissioner to increase the police force in every taluk is not adverted to by the Commissioner. Such an increase will be needed to a small extent, probably, where granaries may be located, or where large bodies of labourers are employed on relief works. For purposes of protection generally, the Mysore Siledar Horse must be held available, and the Chief Commissioner desires that the Military Assistant will, in communication with the Commissioners, take steps to detach small bodies of Siledars, from regimental or Risala head-quarters, to a few well selected points in each district, where their presence will serve to allay alarm, and, if necessary, repress disorders. It must be understood that they cannot be employed in apprehending dacoits or police duties generally.

their legitimate commercial functions, it is needless to say that the result will be of the most pernicious character, and have a very direct and certain effect in checking the importation and proper diffusion of grain throughout the country.

12. This measure may be adopted by the Commissioner under the orders of the Judicial Commissioner, who is authorised to place the services of the Munsiffs and their establishments at the disposal of the Deputy Commissioners, wherever and whenever they may be needed for the supervision of specific relief works.

13. The Judicial Commissioner is requested to submit the names of those Munsiffs upon whom it is proposed to confer magisterial powers temporarily.

14. The Chief Commissioner is not prepared to sanction this proposal at present, excepting to a limited extent, as he is not satisfied that sufficient safeguards exist for the proper distribution of the benevolence. To aid, however, the local efforts that are being made for this object in particular localities, the Chief Commissioner authorises a sum of Rs. 1,000 being distributed monthly for gratuitous distribution of food to supplement private subscriptions at large towns where the services of Assistant Commissioners and Munsiffs can be made available for superintending the work. The distribution of the amount may be left to the discretion of the Deputy Commissioner.

15. Approved.

No. 301G., Bangalore, 27th October 1876.

From the COMMISSIONER OF THE NUNDYDEOOG DIVISION to the OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE, General Department.

In continuation of my letter of yesterday's date, No. 298 G., I have the honour to enclose, for the Chief Commissioner's information, copy of the report just received from the Deputy Commissioner of the Tûmkûr District.

I would bring to notice that this district seems worse off than either of the others, and large payments in money will doubtless have to be made and grain payments also resorted to ere long. The Deputy Commissioner suggests expenditure in taluks as marginally noted; but probably Rs. 3,000 for each of the first five taluks will suffice.

	Rs.	
Tûmkûr	3,000	
Moratagere	5,000	
Maddagiri	5,000	
Sira	5,000	
Chiknayakanhalli	5,000	
Kunigal	1,500	
Kadaba	3,000	
Honnnavalli	5,000	

If a State railway from Bangalore to Tiptur, and on through Shimoga to the Bombay side, should be decided on, a work of this kind would not only open up the country and repay Government in the end, but large gangs of people could be employed on the embankments, and their work would ultimately prove a highly remunerative investment. I would strongly urge this proposition on the consideration of the Chief Commissioner, as in the present state of the line of country through which this railway will pass Government would not, I should think, refuse consent to such an excellent and suitable method of turning the labour of the population to profitable account.

No. 7,501-172, Bangalore, 31st October 1876.

ORDER by the CHIEF COMMISSIONER OF MYSORE.

The report of the Deputy Commissioner of Tûmkûr District, which has been received subsequent to the issue of the Chief Commissioner's Proceedings, No. 7,414-167, dated 27th October 1876, shows that, excepting in a few hoblis of the Kunigal Taluk, where the yield may amount to a 4-anna or even a 6-anna crop, the crops on dry and wet lands alike have been completely lost; and, as no rain has since fallen, there is little or no prospect of raising the subsidiary crops, such as gram, dâl, &c.

2. It is evident that relief works must be actively commenced in this district, and the Commissioner will be authorised to place such sums at the Deputy Commissioner's disposal as may be required in addition to the funds already allotted from the relief grant.

3. The other special measures authorised in Chief Commissioner's Proceedings, No. 7,414-167, dated 27th October 1876, should be carried into effect at once in the Tûmkûr District, as well as in the districts of Ashtagram and Nagar divisions, the circumstances of which are reported to be equally critical.

No. 7,675-35, Bangalore, 2nd November 1876.

ORDER by the CHIEF COMMISSIONER OF MYSORE.

In continuation of proceedings No. 7,414-167, dated 27th October 1876, the Chief Commissioner directs it to be intimated that, as a further measure of relief called for by the circumstances of the present time, the following modifications of the Government demand have been prescribed for the current official year, and will be carried into effect by the Deputy Commissioners of districts under the orders of Commissioners of divisions.

- I. The number of instalments (kists) of land revenue will, as in last year, be extended from 4 to 7, and fixed as follows:—

December.	January.	February.	March.	April.	May.	June.
Annas 2	3	3	2	2	2	2

Exception.—This concession is not applicable to the Malnad Taluks of the Nagar and Ashtagram divisions.

- II. The orders directing interest at $\frac{1}{2}$ pie per rupee per diem on all arrears of land revenue, mohatarfa, &c. are suspended for the current year.

- III. The sale of grazing on unoccupied lands (Hulbanni) will not be enforced during the present year in those taluks or parts of taluks which have been seriously affected by drought. The Commissioners will notify within their divisions the areas which under this order will be wholly exempted from the Hulbanni sales.

2. The measures above detailed will be notified in the "Mysore Gazette," and the Chief Commissioner desires that every means may be taken by District Officers and Assistant Commissioners in charge of sub-divisions to make them generally known.

8. As the season advances, and extent of the failure of the north-east monsoon can be fully ascertained, the Chief Commissioner will be able to determine what further measures of relief may become necessary in respect of remissions or suspensions of land revenue. The Deputy Commissioners of districts may be authorised, however, to grant remission of one half the assessment on all wet lands under tanks which have received no supply of water this year. This remission will comprise the kists from March to June inclusive.

No. 445, 27th November 1876.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF COMMISSIONER OF MYSORE.

I am directed to acknowledge the receipt of your Secretary's letter, No. 7,958, of the 8th instant, and to inform you that the President in Council approves generally of the orders which you have issued to meet the existing and anticipated distress in Mysore. The observations contained in paragraphs 9, 10, and 11 of your order of the 27th ultimo, regarding the expediency of abstaining from any measures likely to interfere with private trade in grain, have in particular his Honour's entire concurrence.

2. With reference to certain remarks contained in the 5th, 7th, 10th, and 16 paragraphs of the order above referred to, I am desired to inform you that the President in Council considers it undesirable to concentrate large bodies of labourers on relief works at a distance from their homes, and would much prefer that minor work should, as far as practicable, be carried on at numerous places throughout the distressed localities. The Governments of Bombay and Madras have, some time ago, received instructions to this effect.

3. I am directed to request that a narrative, showing concisely the condition of each district and the measures of relief in progress, may be submitted once a fortnight to this Department.

Telegram, 27th November 1876.

From OFFICIATING REVENUE SECRETARY, Calcutta, to CHIEF COMMISSIONER, Mysore.

Is statement made in Calcutta "Englishman" that you have bought two hundred thousand bags of grain at Madras correct? President in Council considers it most important not to interfere with private grain trade, and desires that no large purchases of grain be made without sanction of Government of India.

Telegram, 28th November 1876.

From CHIEF COMMISSIONER, Mysore, to OFFICIATING REVENUE SECRETARY, Calcutta.

Statement in Calcutta "Englishman" referred to is devoid of foundation. Mysore Administration has bought no grain, but Central Relief Committee have purchased five hundred rupees worth of ragi and five hundred bags of rice for charitable distribution in kitchens and on works.

No. 6,655, 18th November 1876.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA.

In reply to your letter, No. 106, dated 3rd instant, I am directed to state, for the information of the Government of India, that this Government were fully alive to the considerations which

have prompted the suggestions therein made, and believe that the instructions* recently issued by them regarding remissions, a copy of which is now forwarded herewith, will fully provide for all the cases entitled to consideration. If, however, it were generally made known that the ordinary laws regarding compulsory process were to be held in abeyance, then the danger would be great that many who could and ought to pay would withhold payment.

No. 6,557, 15th November 1876.

RESOLUTION by the GOVERNMENT OF BOMBAY.

READ.—Letter from the Revenue Commissioner, Northern Division, No. A-16, dated 5th November 1876, forwarding with reference to Government Resolution, No. 6,007, dated 21st ultimo, a letter, No. 3,450, dated 2nd instant, from the Collector of Násik on the subject of the principles on which remissions are to be granted; and stating that he thinks that patels and kulkarnis should prepare an asámiwár statement of each man's kháta, showing (1) name; (2) caste and occupation; (3) acres of bagáyat, jiráyat, kharif and rabi, with the crops in each, and the amount of produce in annas which they consider each crop has yielded; and (4) the amount which he has to pay to Government; that Mámlatdárs should test 20 per cent. of these returns and Assistants 5 per cent.; that the Collector should then fix, in consultation with Assistant Collectors and Mámlatdárs, the maximum remission that is to be granted to each village or group of villages, and that pancháyats should then be appointed, who should decide the amount to be granted to each cultivator within the maximum limit, and also in which cases final remissions should be granted, and those in which the collections should only be postponed for one or two years.

RESOLUTION.—The Revenue Commissioner is to be referred to Government Resolution No. 6,414, dated 9th instant.

2. In a season like the present much liberty of action must be left to Collectors, and it is not the wish of Government to hamper them by detailed rules and instructions.

3. Where, as is the case in a large number of villages in the Sinnar Taluka, there has been what practically amounts to an entire failure of crops, there the revenue is to be wholly remitted.

4. Where the crop of the village has been an average one, but where there are isolated instances of failure, then individual inquiries must be instituted under such arrangements as the Collector may think best. Broadly speaking, where the loss has been less than eight annas no remission should be granted, where it is more than eight and less than twelve one instalment may be remitted, and where it is above twelve then the whole may be remitted, as the Collector and his assistants think proper.

5. It is the wish of Government to show the people the utmost consideration, but at the same time not needlessly to forego public revenue.

6. In estimating the amount of loss, entire holdings and not separate numbers should be considered.

7. These instructions may be considered generally applicable to all the districts in both divisions in which there has been a failure of crops.

No. 458, 30th November 1876.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY.

I am directed to acknowledge the receipt of your letter, No 6,655, dated the 18th instant, forwarding a copy of the instructions* issued by the Government of Bombay on the subject of granting remissions of land revenue during the failure of crops in certain districts in the Bombay Presidency.

2. In reply, I am to point out that those instructions do not appear to provide for the cases intended to be met by the suggestion contained in my letter No. 806 of the 3rd instant, which had reference to (1) sale of land in distressed districts for default of payment of land revenue, and (2) exemption of necessary movables in case of any sale of movable property for such default. The difficulty felt by the Government of Bombay is undoubtedly worthy of consideration, but perhaps it might be met by instructions of a confidential nature.

Telegram, 25th November 1876.

From the OFFICIATING REVENUE SECRETARY, Calcutta, to the SECRETARY, Public Works Department, Bombay.

Is statement in "Pioneer" 24th, that there are three miles and a half of wagons of grain at Kallian Junction correct? If so, and this be owing to insufficient railway establishment, there or elsewhere, the company should be pressed to make ample increases.

Telegram, 25th November 1876.

From the SECRETARY, Public Works Department, Bombay, to the OFFICIATING REVENUE SECRETARY, Calcutta.

"Pioneer's" statement exaggerated, but there is great block on Great Indian Peninsula Railway, owing not to want of establishment, but to deficiency of wagon stock, station, and siding accommodations. Railway company repeatedly urged to do all in their power to clear their line; have borrowed stock wherever available, increased their traffic staff, and are doing all they can. Agent suggested booking no more grain, but this Government did not approve, as the measure was likely to check trade.

STATEMENTS regarding the FAMINE DISTRICTS in the DECCAN and the SOUTHERN MAHARATTA COUNTRY, called for by the Government of India by Telegram, dated 22nd October 1876, and furnished by the Government of Bombay in their Letters, Nos. 6,331, 6,406, and 6,561 of the 4th, 8th, and 15th November 1876.

KHANDESH.

TALUKAS.	Area, in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.	Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
			Rs.	Kharif. Acres. Rabi. Acres.	Inches.	Inches.	Per Rupee. Bajri. 14 seers. Jowari. 18 seers.	Per Rupee. Bajri. 6½ seers. Jowari. 8 seers.		
1. Dhulia	759	66,939	1,69,915	159,239	23·83	12·73*	16 "	8 "	The Collector states that he will be able shortly to submit trustworthy information, but that he is not able to state with certainty what the probable failure of crops may be till the officers who are now engaged in searching examinations of the different villages have completed their work. At present he does not expect a crop of more than 4 or 6 annas in the rupee.	
2. Amalner	529	79,863	2,58,024	173,204	21·93	15·15	16 "	8 "		
3. Erandol	467	76,689	2,30,127	185,192	30·4	14·79	16 "	8 "		
4. Pachora	342	84,880	2,86,181	170,697	28·31	12·86	17 "	8 "		
5. Chalisgaon	511	44,568	1,27,905	91,373	28·19	13·21	14 "	7½ "		
6. Pimpalner	1,039	60,125	1,19,345	109,393	26·78	16·81	13 "	8 "		
7. Nundurbár	647	45,285	1,25,676	46,333	24·74	14½	14½ "	7½ "		
8. Taloda	1,135	35,278	59,304	9,370	28·32	12 "	12 "	8 "		
9. Shahada	468	46,228	2,05,913	65,943	21·36	16·6	17½ "	9 "		
10. Virde	507	63,350	2,41,888	153,056	27,593	7·95	16 "	8 "		
11. Shirpur	780	34,642	1,29,830	58,625	20·55	11·24	16 "	8 "		
12. Chopra	495	51,581	1,60,482	86,912	Information not available.	{ 11·97	16 "	8 "		
13. Sauda	867	124,519	2,78,744	182,518	27,206	{ 13·4	16 "	8 "		
14. Bhusawal	570	84,245	2,46,223	154,127	11,264	8·41	14 "	7 "		
15. Nasirabad	319	60,109	2,11,532	88,326	Information not available.	{ 12·31	16 "	7 "		
16. Jámner	527	70,351	1,75,088	140,514	744	{ 13·36	17½ "	8 "		
Total	10,162	1,028,642	30,26,127	1,842,822	279,896					

NÁSÍK.

	Area, in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.	Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
			Rs.	Kharif. Acres. Rabi. Acres.	Inches.	Inches.	Per seer of 80 Tolas per Re. Bajri. 26 seers. Jowari. 13½ seers.	Per seer of 80 Tolas per Re. Rice. 12½ seers. Bajri. 13½ seers. Jowari. 15 seers.		
1. Násik	445	89,377	39,802	79,764	29·41	15·97†	26 "	12½ "	Kharif crops fair in parts of Násik, Niphar, Dindori, Chándor, Kalwan, Bágán, Málgaon, Nándgaon, and Igatpura.	
2. Sinnar	507	64,872	1,37,078	141,876	22·49	10·65	28 "	9½ "		
3. Igatpura	672	57,735	81,778	71,274	25,383	109·59	23 "	12 "		
4. Niphar	560	68,626	1,15,823	81,618	47,909	25·57	25 "	12 "		
5. Dindori	370	86,017	2,16,202	90,345	63,551	17·94	26 "	10½ "		
6. Chándor	299	50,130	83,509	85,239	20,907	12·58	27 "	10 "		
7. Yeola	482	59,313	59,744	68,877	48,600	14·96	27 "	9½ "		
8. Nándgaon	424	30,230	55,782	69,825	11,743	13·66	25 "	9 "		
9. Málgaon	774	62,716	1,59,091	111,364	26·15	10·42	25 "	9½ "		
10. Bágán	1,420	59,051	1,24,835	174,786	57,495	{ 14·32	28 "	7½ "		
11. Kalwan	1,200	54,152	75,780	—	56,092	{ 16·10	28½ "	10 "		
12. Peint State	960	47,033	45,571	—	—	{ 77·40	—	13½ "		
Total	8,113	729,252	12,48,995	974,918	409,250	—				

* This is the return as shown by Collector. The Public Works Department shows 13·14 as the total fall.

† This is the fall as registered by the Revenue authorities, but that shown by the Sanitary Commissioner, as registered by the Public Works Department, is 12·93.

AHMEDNAGAR.

Talukas.	Area in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.	Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
			Rs.	Kharif. Acres. Rabi. Acres.	Inches.	Inches.	Seers. Bágri. Tolas.	Seers. Bágri. Tolas.		
1. Nagar	548	109,888	1,32,838	73,855	27.99	8.64	31 6	10 77	Taking 12 annas as the average yield, the failure will be,—	
2. Farnar	731	82,422	1,12,500	138,438	23.3	8.28	30 57	12 34	6 annas in 12 villages, and 12 annas in the rest.	
3. Shrigonda	610	64,936	1,17,726	56,491	28.12	15.29	35 8	12 5	Do. do. 9½ annas.	
4. Karjat	567	48,766	49,242	49,242	21.38	6.70	35 8	14 50	Do. do. 10½ "	
5. Jankhed	550	72,994	2,07,464	81,054	28.76	8.77	38 2	16 65	Do. do. 12 "	
6. Sheegaon	682	83,226	1,52,406	95,232	29.34	20.0	36 45	16 7	Do. do. 2 "	
7. Newasa	621	62,418	1,29,815	47,875	24.57	13.49	33 51	17 44	Do. do. 4 "	
8. Rahuri	469	59,093	1,34,586	68,836	23.6	10.57	35 8	13 43	Do. do. 8 or 9 "	
9. Kopargaon	505	60,839	1,32,831	90,534	23.57	10.5	26 14	14 50	Do. do. 7 "	
10. Sanganner	688	68,765	1,24,110	154,679	20.16	6.45	32 14	12 48	Do. do. 10 "	
11. Akola	676	60,591	77,814	136,984	21.33	8.98	31 35	11 56	Do. do. 8 "	
Total	6,647	773,938	13,22,040	988,215	1,181,843				NOTE.—The above information has reference to the yield of the kharif only; rabi for the present must be considered to be a failure; it has not been sown generally, and where sown will not produce anything, except probably in some parts of Sheegaon.	

POONA.

			Rs.	Kharif. Acres. Rabi. Acres.	Inches.	Inches.	Seers. Bágri. Tolas.	Seers. Bágri. Tolas.		
1. Junnar	600	106,876	1,58,586	154,483	23.34	17.9	33 66	12 19	One half to three-fifths.	
2. Indapur	567	62,392	1,01,025	238,156	21.76	4.82	33 54	14 75	The whole, except in irrigated land, of which there is very little.	
3. Khed	799	139,152	1,68,961	206,413	23.50	18.9	—	13 8	One half to three-fifths.	
4. Srur	558	76,984	1,40,392	115,501	17.3	10.94	33 31	14 5	Three-fifths.	
5. Purandhur	442	75,732	83,934	70,984	23.34	17.54	—	13 8	One half to three-fifths.	
6. Bhimthari	1,002	115,297	2,17,499	43,872	20.73	5.97	—	11 20	The whole, except in irrigated land, of which there is very little.	
7. Haveli	766	155,082	1,89,197	182,857	33.10	14.90†	28 35	13 65	One half.	
8. Mawal	357	56,834	70,362	52,555	*	76.79	—	12 37	Ditto.	
9. City of Poona	8	118,886	—	—	—	—	—	—	—	
Total	5,099	909,235	13,29,956	1,059,821	591,679					

* No data available, rain gauge having only lately been established.

† The remark made regarding Nasik applies here also. The fall registered by Public Works Department is 14.80.

SHOLAPUR.

TALUKAS.	Area in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.	Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
1. Sholapur	841	180,587	Rs. 2,58,357		Inches. 28.35	Inches. 8.68*	Seers of 80 Tolas per Rupee. 16	Seers of 80 Tolas per Rupee. 5	The failure of crops may be said to be entire. If any is saved it will be so little as to hardly worth taking into calculation. In some talukas and fallen at one time or another. It is seasonably there would have been an average crop in parts of the district; but as it is the case, the crop was burnt up, and the people have not been able to sow for the late crop, or where they have sowed the seed has for the most part failed, and what remains will now share the same fate.	
2. Bársi	605	130,853	2,01,863		29.4	11.14	Jowári -	Jowári -		
3. Karmála	762	105,291	1,70,615		22.37	8.41	" -	" -		
4. Mádha	612	103,981	1,51,797		25.32	6.45	" -	" -		
5. Pandharpur	455	79,314	1,17,336		24.64	6.8	" -	" -		
6. Sāngola	647	62,960	85,207		21.76	4.29	" -	" -		
7. Malsiras	574	55,048	88,780		—	11.78	" -	" -		
Total	4,496	718,034	1,073,905	445,091	1,649,224					

SATARA.

	Area in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.	Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
1. Karád	391	133,132	Rs. 2,46,331		Inches. 27.97	Inches. 19.75	Seers of 80 Tolas per Rupee. 16	Seers of 80 Tolas per Rupee. 11	4 annas in the rupee.	
2. Wálwa	585	156,089	3,25,992		25.24	12.85	51½	51	5 annas and 4 pies in the rupee.	
3. Satara	330	115,113	1,83,659		40.4	33.59	77	52	3 annas and 2 pies in the rupee.	
4. Wai	389	86,095	1,13,551		32.88	25.34†	8½	56	4 annas in the rupee.	
5. Jauli	412	53,836	60,299		74.3	59.84	63	84	5 annas and 4 pies in the rupee.	
6. Khánápur	508	76,783	1,22,269		23.34	11.4	32	40	12 annas in the rupee.	
7. Koregaon	333	82,344	1,69,554		27.77	20.19	18	48	4 annas in the rupee.	
8. Mán	640	62,198	72,260		20.89	9.35	0	32	12 annas in the rupee.	
9. Pátan	510	115,491	92,483		61.71	48.82	44½	48	5 annas and 4 pies in the rupee.	
10. Khatau	530	81,950	1,08,047		22.38	11.51	76½	65	12 annas in the rupee.	
11. Tsagaon	345	87,975	1,11,467		25.77	9.79	18	64	Ditto	
12. Mahableshwar	5	4,006	3,357		273.22	243.18	42½	20	8 annas in the rupee.	
Total	4,988	1,061,002	15,54,329	1,087,835	239,337					

* See remark about Satara, which applies to this district. The Public Works Department return is 8.61.
† The statement above given is that of the Revenue authorities. The Public Works Department make the rainfall 80.79.

KALÁDGI.

TALUKAS.	Area in Square Miles.	Population.	Government realizable Revenue in 1875-76.	Rough Proportion of Kharif to Rabi cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.	Ordinary Price of Staple Food of the Taluka at this Season.	Actual present Price of the same.	Probable extent of Failure of Crops.	Amount, if any, sanctioned for Relief.
			Rs.	Kharif. Acres.	Rabi. Acres.	Inches.	Inches.				
1. Indi -	837	105,475	1,97,090	70,192	272,579	27-32	3-98	Staple food jowári. The ordinary price throughout the district is about 28 seers per rupee.	25th Oct., 11 seers per Re.	In a few villages in talukas Badami, Sindgi, Hungund there was a sufficient quantity of rain to produce a scanty harvest, but throughout the rest of the district the whole kharif crop has perished. There is no rabi crop sown in the district as yet, and unless heavy rain falls there is no hope of any. Scarcely any "baghayet" in the district. The yield of present season is estimated at $\frac{1}{4}$ th only.	
2. Muddebiñal -	552	88,848	1,25,681	102,846	100,123	24-46	5-14		24th " 12 "		
3. Sindgi -	792	99,798	2,12,567	30,613	328,824	20-83	6-53		25th " 11 "		
4. Bagewari -	757	93,738	1,84,134	99,003	194,701	23-98	6-18		26th " 10½ "		
5. Bégalkot -	684	110,185	1,30,839	86,230	69,188	22-77	8-87*		" " 8 "		
6. Bádami -	690	130,816	1,04,476	84,600	37,940	22-0	7-17		" " 11 "		
7. Hungund -	518	105,866	1,19,694	69,357	96,714	20-22	7-49		" " 10 "		
8. Bijapur -	865	86,811	1,33,635	227,845	84,602	17-90	3-71		25th " 10½ "		
Total -	5,695	816,037	12,08,116	770,686	1,184,671						

BELGAUM.

		Seers of 80 Tolas per Rupee.		Up to 30th October 1876.		Inches.		Rabi.		Kharif.		Rs.		Population.		Government realizable Revenue in 1875-76.		Rough Proportion of Kharif to Rabi cultivation.		Average Annual Rainfall.		Actual Rainfall this Season.		Ordinary Price of Staple Food of the Taluka at this Season.		Actual present Price of the same.		Probable extent of Failure of Crops.		Amount, if any, sanctioned for Relief.	
		NIPANI—		Inches.		Inches.		Acres.		Acres.		Rs.																			
1. Belgaum -	607	134,621		1,48,611		41-88		3,959		72,194		1,48,611																			
2. Sampgaon -	409	131,504		2,39,918		32-52		11,784		182,852		2,39,918																			
3. Bidi -	632	78,875		1,19,770		59-44		1,778		66,245		1,19,770																			
4. Chikóri -	848	248,685		2,64,841		19-86		26,491		142,157		2,64,841																			
5. Paragad -	638	120,691		1,86,441		21-38		51,535		106,047		1,86,441																			
6. Gokák -	668	109,697		1,34,519		19-72		54,801		87,380		1,34,519																			
7. Athni -	789	114,677		1,59,817		18-57		143,041		76,100		1,59,817																			
Total -	4,591	938,750		12,53,917		293,389		682,875				12,53,917																			

* Kaládgi is the head station, and is in the taluka of Bégalkot.

† This represents the fall as shown by the Revenue authorities; that registered at the Civil Hospital and submitted by Sanitary Commissioner is only 31-28. The actual rain-fall there up to date, as shown by the returns prepared from the Sanitary Commissioners record, is 14-26. The average prices prevailing during the past three years in the month of October are given.

NOTE.—The prices at Nipani, in Chikóri taluka, Belgaum Town, and Nandgaon, in Bidi taluka, only are given; but being taken from the principal market towns they very fairly show the prevailing prices of grain throughout the district.

No. 459.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY
TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Calcutta, 30th November 1876.

I am desired to inform you that the statements which accompanied the letters from the Government of Bombay quoted in the margin, as also the weekly progress statements up to No. III., have been carefully considered by the President in Council.

No. 6,331, dated 4th November 1876.

„ 6,406, „ 8th „ „

„ 6,561, „ 15th „ „

2. The object of the Government of India in obtaining general and periodical information of the condition of the districts affected by the scarcity is two-fold. It is necessary to ascertain that the expenditure which is taking place is neither excessive nor contrary to the principles which have been laid down for the selection of relief works, and also that a sufficient and safe forecast has been, and is being, made of the exigencies of the situation, up to the time when the reaping of fresh crops at the close of the next rains will, it is hoped, bring relief. This object is thus partly financial and partly administrative, and its attainment evidently depends entirely upon the soundness and the sufficiency of the forecast.

3. His Honour the President in Council fully recognises the difficulties by which the ascertainment of facts and the preparation of programmes are surrounded, and the efforts which have been, and are being, made by the Government of Bombay to ensure the correctness of the returns now under consideration, and to obtain more complete information hereafter on the points they comprise, and others equally important. At the same time he is constrained to observe, and his Excellency the Governor in Council will probably be glad to be made aware of the fact, that the data at present available are still far from free from obvious contradictions and inaccuracies, and are by no means so complete as those which the Government of India has had before it on previous occasions of scarcity in other parts of India. They do not, moreover, in most cases, comprise the opinions of the mass of local officers, to which, when given deliberately, fully, unreservedly, and promptly, considerable value has always justly been attached.

4. Seeing, therefore, that the materials for a forecast which may be safely relied on have not yet been obtained, I am to request that a more complete review of the situation may be submitted, comprising—

- (a.) A careful estimate of the amount (if any) of the crop which has been saved, calculated in annas, on the assumption of an average yield being represented by 12 annas; kharif and rabi should be shown separately. If there be any prospect of further sowings it should be mentioned.
- (b.) An estimate, as close as may at the time be practicable, of the amount of revenue to be remitted.
- (c.) Information as to the mortality, past and anticipated, among cattle and agricultural stock; the measures already adopted by Government and the people, their result, and suggestions for the future.
- (d.) The nature of the water supply, extent of its failure, further anticipated failure up to next rains, and remedial measures possible, if any.
- (e.) The course of prices, weekly, of each of the principal food-grains from October 1st up to the date of report in each case, and six years' averages.
- (f.) The local stocks, as far as ascertainable; the centres, railway stations or otherwise, whence further supplies are being, or may be, drawn, and the probability of private enterprise being sufficient to maintain them, as also of a fall in prices owing to ample importation.
- (g.) The character of the population, whether high or low caste, poor or well-to-do, purely or only partly agricultural, and if the latter, in what proportions urban or artisan; also the character of the landholders, whether large, wealthy, able to aid their tenants and likely to do so, or the reverse.
- (h.) The movements of the people; how far emigration has taken place, and with what result (have the people bettered themselves, or merely gone elsewhere to starve, or are they returning), and whether further emigration is probable.

- (i.) The relief works already started, their sufficiency or otherwise, and the further works which are considered practicable, arranged in the order of their necessity.
- (j.) The nature and amount of charitable relief given to travellers, and to the aged, infirm, &c., who are unable to work.
- (k.) The number of persons whom the Government has on its hands, at date of report, for relief (1) by works, (2) by charitable measures, and the number, roughly estimated, which it is likely to have on its hands on March 1st, May 1st, and July 1st.

5. The above information, I am desired to say, should be given for each taluka separately, and should be, in the first instance, prepared by the Mamlatdars, the permission already given to place them on special duty being freely availed of for the purpose. The Assistant or Deputy Collector in charge should test, verify, or supplement the statements of each Mamlatdar, and then submit as his own, and in his own language, a complete report for the taluka on the points indicated, with full and free expression of his own opinions. Each taluka report should be passed on by the Collector, with his remarks, to the Commissioner, and by him similarly to the Bombay Government, who will forward it to this Department. No report of any one taluka should be detained anywhere because others have not come to hand, and the whole of the reports should have reached the Government of India by the 15th of January next. As many of the details above specified have already been partially collected, or are in process of collection, and the welding of the whole, including the new matter, into a complete form will be of obvious use to both Governments, the President in Council trusts that the call now made will not prove especially difficult or irksome.

6. In conclusion, I am desired to remark that no information has yet reached the Government of India as to the condition of the political territory comprised in the distressed tract, and to request that full information, as above, may be submitted in the case of all states under British management, and such details as may be procurable in the case of the others.

I have the honour to be, &c.

Telegram, 30th November 1876.

From SECRETARY, Public Works Department, Bombay, to OFFICIATING REVENUE SECRETARY, Calcutta.

Population distressed talukas 5,000,000. Estimated maximum number who will require assistance at worst season one fifth, or 1,000,000. On this basis, and allowing, as well as can be calculated, for increase to and decrease from the maximum, also for cost of organization, supervision, and all attendant expenses, outlay up to 31st March next will probably be 54 lakhs, from 1st April to 31st October 86 lakhs.

Revenue Despatch, No. 4, 5th January 1877.

From the SECRETARY OF STATE FOR INDIA to the GOVERNOR GENERAL OF INDIA IN COUNCIL.

1. The Despatch of your Excellency's Government, dated 1st December, No. 31 of 1876, relative to the famine in Western and Southern India, has been received and considered in Council.

2. I approve of the orders issued by your Lordship's Government, and I desire that the complete reviews of the condition of affairs which the Governments of Madras and Bombay have been directed to submit by the 15th of January may be forwarded to me with all practicable despatch.

3. I have been kept informed of the progress of the scarcity by the Government of Bombay, but, until the present mail, I have received no Despatch on the subject since July last from the Government of Madras. My only knowledge of the condition of affairs in connexion with the famine in that Presidency has been derived from the Despatches of your Lordship's Government. I have now, however, received a comprehensive Despatch, with copies of a considerable correspondence with the Board of Revenue, from the Government of Madras, and I feel bound to record that the Governor in Council of that Presidency seems alive to the gravity of the situation which is presented to his attention, and has addressed himself to the duty of dealing with it with vigour and promptitude. He also appears to have been well supported by the Board of Revenue and the local authorities. I have impressed upon the Governments both of Madras and

Bombay the necessity of being guided by the instructions which they may receive from your Lordship in Council as to the construction of such relief works as may involve a large expenditure.

4. I approve generally of the measures adopted in this emergency by the Chief Commissioner of Mysore.

I have the honour to be, &c.

(Signed) CARNARVON.

No. 32 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Calcutta, 8th December.

1. In continuation of our Despatch of the 1st instant, we beg leave to forward, for your Lordship's information, copies of the communications specified in the margin, relating to the scarcity in Western and Southern India.

Letter from the Government of Madras, dated the 24th November 1876.

Telegram from the Madras Board of Revenue, dated the 1st December 1876.

Letter from the Accountant General, Bombay, dated the 28th November 1876.

Letter from the Government of Bombay, dated the 30th November 1876.

Telegram from the Government of Madras, dated the 1st December 1876.

Telegram to the Government of Madras, dated the 2nd December 1876.

Telegram from the Government of Madras, dated the 5th December 1876.

Letter to the Government of Madras, dated the 8th December 1876.

2. With reference to the concluding paragraph of our Despatch above quoted, your Lordship will observe that we have now received estimates from both Madras and Bombay of the loss of revenue and the relief expenditure which is anticipated during the current and the coming years. According to the latest Madras estimate, the loss of revenue is calculated at 97 lakhs and the expenditure at 89 lakhs for the current year, and at 26 and 20 lakhs

respectively for the coming year, thus making a total of 2 crores and 32 lakhs as the cost to the State of the famine in Madras. The estimate for Bombay is 46 lakhs loss of revenue and 54 lakhs for relief expenditure for the current year, and 20 and 86 lakhs respectively for the coming year, making a total of 2 crores and 6 lakhs. The aggregate for the two Presidencies thus reaches 4 crores and 38 lakhs, or, converted at two shillings per rupee, no less than 4,380,000 $\frac{1}{2}$ l. The prospect is very alarming, but we are not without hopes that the anticipations of both local Governments may prove to have been exaggerated. The only data for forming an opinion regarding Bombay are those furnished by that Government in their letter of the 30th instant, which appear to be based on so excessive an estimate of the proportion of the population likely to be dependent on the State for relief as to give reason to hope that, if due care and economy be exercised, the actual expenditure will fall considerably short of the estimate given. What the loss of revenue will be it is impossible to predict until we receive the detailed review for which we recently called. In the case of Madras we have even still less upon which to base our judgment. In regard to expenditure we have hardly any information beyond the amounts already sanctioned and estimated, which are 14 and 75 lakhs respectively, up to the end of the current year. As to the nature of the relief works which have been or are to be set on foot, the localities where they are to be undertaken, or the data on which the necessity for this large outlay has been assumed, we have no knowledge whatever. As the requisitions which we have made continue to be disregarded, we have thought it necessary to call the earnest attention of the Madras Government to the subject.

3. The Madras Railway being unequal to carry the grain consigned to it, we have approved of a notification issued by the Government of that Presidency that food-grains shall, for the present, have preference over other classes of goods.

4. Consequent on a report from the Madras Government of a large influx of people from the Nizam's territories into the Kurnool District, and of much embarrassment having been caused thereby, we have requested the Resident at Hyderabad to address the Minister with the view of obtaining the organization of relief works by the Nizam's Government.

5. We have received from the Bombay Government a letter, No. 220, C. W.—904 of the 27th ultimo, in reply to our's of the 9th idem, No. 412, affording certain information regarding their programme for relief works. Our remarks on this letter, which is still under our consideration, will be communicated to your

Lordship in our Despatch of next week. We are glad to learn, from the weekly progress report of the 29th ultimo, that the question of water supply is not considered by the Bombay Government to be a cause of very grave apprehension at present.

We have the honour to be, &c.

No. 1,797, 24th November 1876.

From the SECRETARY TO THE GOVERNMENT OF FORT ST. GEORGE to the SECRETARY TO THE GOVERNMENT OF INDIA.

With reference to your telegram, dated 20th instant, requesting me to send the best estimate obtainable of the loss of revenue during the current and ensuing years under the several heads so as to reach Calcutta by the 1st December, I am directed to give you the under-mentioned estimates, framed on the latest information obtained from the districts, and to state that should it be found necessary to revise these estimates materially on receipt of later information, which has been called for from the district officers, the figures will be telegraphed to you on the 1st December.

	1876-77.		1877-78.
	As per sanctioned Estimate.	Regular Estimate.	
	Rs.	Rs.	Rs.
Land revenue - - - -	4,49,00,030	4,19,00,000	4,46,45,000
Excise on spirits and drugs - - - -	63,80,000	62,39,000	64,18,000
Sea customs - - - -	25,40,000	26,48,000	26,23,200
Land customs - - - -	2,60,000	2,21,150	2,28,200
Salt - - - -	1,36,50,000	1,33,90,000	1,34,16,000
General stamps - - - -	17,44,000	17,38,000	17,25,000
Court fee stamps - - - -	32,56,000	32,39,100	32,66,000
Total - - - -	7,27,30,000	6,93,75,250	7,23,21,400

Telegram, 1st December 1876.

From BOARD OF REVENUE, Madras, to COMMERCE, Calcutta.

Your telegrams 20th and 21st ultimo. Latest revised estimates of receipts for the current year are, land revenue 3,52,68,000; excise, spirits, and drugs 53,32,500; sea customs 25,40,000; land customs 2,08,300; salt 4,10,58,500; stamps 48,00,000; total 6,12,07,200. Estimates for 1877-78 on latest data are, land revenue 4,23,12,000; excise, spirits, and drugs 61,99,400; sea customs 6,23,200; land customs 2,28,200; salt 1,33,69,300; stamps 49,00,000; total 6,96,12,100. Expenditure on famine relief works already sanctioned 14,27,000, estimate direct relief works up to end current year 74,45,000, total 88,72,000, exclusive of extra establishments, tools, and plant, police, &c. Considerable reduction in above estimate anticipated. About 15 lakhs will be required in first six months, 1877-78, for relief works in Ceded Districts. In other districts expenditure will be necessary to end of May only, if next south-west monsoon prove favourable. Estimate this expenditure five lakhs.

No. 13,102 B., Bombay, 28th November 1876.

From the ACCOUNTANT GENERAL, Bombay, to the SECRETARY TO THE GOVERNMENT OF INDIA.

Under instructions from the local Government, I have the honour to forward a copy of my revised estimate for the current year, on account of the several heads of Imperial revenues and receipts, the original of which was submitted to the Government of India, in the Financial Department, on the 21st current. From this return it will be seen that the net loss of revenue during the current year would amount to Rs. 36,39,000.

2. The anticipated probable loss of land revenue in the coming year is estimated at Rs. 20,19,000. This result has been arrived at by comparing the amounts estimated by the Collectors of the drought-stricken districts for the next year with the amounts actually realised in last year, 1875-76. A similar comparison of excise and stamp revenues exhibits a decrease of Rs. 2,386 under the former, and an increase of Rs. 70,000 under the latter, head. I am disposed to doubt the correctness of these last figures, and think that there will be a considerable falling off under "IV, Excise" and "IX. Stamps"; but, in the absence of more reliable data, it is impossible to ascertain the probable loss under these heads.

3. The Conservators of Forests, Northern and Southern Divisions, were telegraphed to, on the 21st ultimo, to report the loss of revenue of their respective circles. No reply has yet been received from them.

The realization under the other heads of Imperial receipts for the coming year will not, it is believed, be materially affected by the present scarcity.

REVISED ESTIMATE of the REVENUE and RECEIPTS of the BOMBAY PRESIDENCY for the year 1876-77.

Revenue and Receipts.	Budget Estimate for 1876-77.	Revised Estimate for 1876-77.	Increase.	Decrease.
	Rs.	Rs.	Rs.	Rs.
I. Land revenue -	3,71,00,000	3,25,00,000	—	(1) 46,00,000
II. Tributes and contribution from native States -	9,08,000	9,08,000	—	—
III. Forests -	12,26,000	12,96,000	(2) 70,000	—
IV. Excise on spirits and drugs (3) -	39,50,000	39,50,000	—	—
V. Assessed taxes -	—	—	—	—
VI. Customs -	67,00,000	66,00,000	—	(4) 1,00,000
VII. Salt -	89,00,000	87,00,000	—	(5) 2,00,000
VIII. Opium -	2,61,00,000	2,70,00,000	(6) 9,00,000	—
IX. Stamps -	46,80,000	45,00,000	—	(7) 1,80,000
X. Mint -	4,70,000	7,20,000	(8) 2,50,000	—
XI. Post office -	—	—	—	—
XII. Telegraph -	—	—	—	—
XIII. Law and justice -	2,80,000	2,80,000	—	—
XIV. Marine -	6,30,300	6,30,000	—	—
XV. Interest -	10,40,000	11,66,000	(9) 1,26,000	—
XVI. Receipts in aid of superannuation, retired and compassionate allowances -	13,18,000	13,20,000	2,000	—
XVII. Gain by exchange on transaction with London -	75,000	1,78,000	(10) 1,03,000	—
XVIII. Miscellaneous -	1,50,000	1,40,000	—	(11) 10,000
Total receipts -	9,35,27,000	8,98,88,000	14,51,000	50,90,000

1. The decrease is due to (a) the failure of crops in the Deccan and Southern Maratha country, (b) abandonment of land in Ahmedabad and Surat, (c) damage to crops in various talukas of the Shikarpur Collectorate in consequence of heavy flood passing through the Khesmore and Jhalli Bund, (d) a sum of Rs. 45,000 included in the original estimate on account of Grass allowance due by the Baroda State having been excluded in accordance with instructions conveyed in Government of India's Financial No 3,747, dated 2nd current, and (e) the transfer to "IV, Excise," under orders from the local Government, of fees for tapping toddy trees in the Rutnagiri Collectorate hitherto credited under this head.

2. The amount proposed by the Conservator of Forests for the Regular Estimate has been adopted.

3. *Excise.*—The Collectors of Nasik, Shikarpur, and Karachi propose an increase of Rs. 29,000 owing to better rates at which Abkari farms have been taken up by contractors, adding to this amount Rs. 18,000 on account of fees for tapping toddy trees transferred from "Land Revenue." These cause a gross increase amounting to Rs. 47,000. On the other hand, the Collector of Puna anticipates a decline of Rs. 13,000; this, plus Rs. 7,000, the probable amount of reduction on account of Khat license fees made over to the Aden Municipality, *vide* Financial No. 1,000 of the 17th June last, causes a total decrease amounting to Rs. 20,000, deducting this amount from the gross increase the result is a net increase of Rs. 27,000. The Accountant General does not, however, consider it advisable to raise the original estimate, as he doubts whether the original estimate will be realized in the present distressed state of the country.

4. One lakh of rupees were over estimated by the Collector of Customs, Karachi, on account of import duty, owing to his having calculated the receipts at the old tariff rates.

5. The Collector of Salt Revenue has proposed a reduction of Rs. 13,00,000 from his original estimate of one crore of rupees, owing to the recent orders of the Supreme Government regarding the issue of free salt to British Malabar and the Native States of Travancore and Cochin, but Rs. 11,00,000 have already been reduced by the Government of India, the balance of Rs. 2,00,000 has therefore been now reduced.

6. The actual realization up to the end of last month has amounted to Rs. 1,61,62,000. The opium officers at Malwa and Ahmedabad anticipate that the number of chests which would pass through their agencies during the remaining five months of the year would be 18,400, yielding a revenue of Rs. 1,10,40,000, thus the total for the year would be Rs. 2,72,02,000. We have therefore raised the original estimate by Rs. 9,00,000, anticipating that a balance of Rs. 2,02,000 will remain outstanding at the close of the year.

7. Reduced in consequence of the distressed state, of people in the Deccan. We expect a larger falling off on this account, but the extent cannot be correctly ascertained so early in the year.

8. Raised at the instance of the Mint Master, who states that owing to the India Office having raised a sterling loan of 4,000,000% there will be a larger exportation of bullion to India than originally expected.

9. Raised in consequence of the larger amount of interest having been realised than originally estimated on the loan to the Bombay Port Trust.

10. Increased, in reference to the actuals of the six months of the current year, which amounts to Rs. 1,04,000. This sum includes an amount of Rs. 14,000 recovered in excess from the Bombay Port Trust, but subsequently refunded and charged to "3 Refunds and Drawbacks."

11. Reduced on account of the transfer of revenue from the Shiek Ottoman waterworks at Aden to the Public Works Department under the orders of the local Government.

No. 638 A.-932, 30th November 1876.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY to the SECRETARY TO THE GOVERNMENT OF INDIA.

I have the honour to acknowledge the receipt of your telegram of the 25th instant, requiring that the best estimate obtainable of expenditure on famine relief in this Presidency during this and the next year may be sent, so as to reach Calcutta by the 1st December.

* Population, distressed taluqas, five millions. Estimated maximum numbers who will require assistance at worst season, one fifth, or one million. On this basis, and allowing, as well as can be calculated, for increase to, and decrease from, the maximum, also for cost of organisation, superintendence, and all attendant expenses, outlay up to 31st March next will probably be 54 lakhs. From 1st April to 31st October, 86 lakhs.

2. I have to-day sent you a telegram as quoted in the margin,* and I am now directed to explain in more detail how the results reported in that telegram have been obtained.

3. The population of the affected portions of the Collectorates of this Presidency is, in round numbers, 5,000,000. It is manifestly impossible to say, with any degree of accuracy, how many of these persons will come upon the hands

of Government, or for what time; but it may be sufficient to assume that it will not, at any time, be necessary to afford relief in any shape that will take the form of a direct expenditure of Government money to a greater number than 20 per cent. of the above population, i.e., to 1,000,000 of people. This is altogether exclusive of any demands which the Government may be compelled to meet in consequence of the inability or failure of any of the small Native States to do what may be necessary to preserve the lives of their people.

4. There are now about 150,000 persons employed on relief works of different descriptions, but the cost of their employment up to the present time will, in a great measure, be met from ordinary resources, provincial and local, and there has as yet been little or no almsgiving by Government. The heavy expenditure calculated as coming against the extraordinary grant for relief may, therefore, be considered as commencing from the 1st of December.

5. The state of the people will probably be worst in April next, just before the May showers, which usually usher in the monsoon, begin to fall. In this month it would be prudent to provide for the maximum number requiring relief in some shape or another; and the numbers, on this supposition, will increase from the present time up to April, will remain stationary during that month; and will decrease as agricultural operations are resumed on the commencement of the monsoon; and, if all goes well, a normal state will probably be reached by the end of September 1877.

6. Proceeding on the above assumption, a calculation, which can at the best be only very rough and approximate, may be made as follows:—

7. There are now, as stated, nearly 150,000 persons receiving relief, and these are assumed to have been so far provided for.

	Persons.
In December their number may be	200,000
„ January 1877	300,000
„ February	450,000
„ March	750,000
„ April	1,000,000
„ May	800,000
„ June	500,000
„ July	300,000
„ August	100,000
„ September	50,000
Total	4,450,000

Of these, probably one tenth will have to be supported by alms, and nine tenths by employment on relief works, and the number will therefore be—

	Rs.
4,005,000, or say 4,000,000, at Rs. 3 each per month (average cost)	1,20,00,000
445,000, or say 450,000, at Rs. 2 each	9,00,000
Total Rs.	1,29,00,000

or say 13,000,000 of rupees = 1,300,000% at 2s. the rupee.

8. To this must be added a further sum of, say, 10 lakhs of rupees, or 100,000%, to cover the extra expenditure incidental to organization, establishments, medical attendance, extra police, transport of grain to particular points, if necessary, loss on sale of grain when supplied by Government, compensation for land taken up for works, transport of cattle, compensation for grazing, damages, &c. &c., and the total will, in this way, be raised to, say, 1,400,000%. This will not include any advances it may be necessary to make to cultivators to enable them to subsist while preparing their fields, or to furnish them with seed-grain; but if, as will probably be the case, the decrease in numbers after the 1st April next be more rapid than has been estimated, outlay on this account will have been to some extent at all events provided for.

9. His Excellency in Council will be glad if the above should prove to be an outside estimate, but it cannot be materially reduced at the present time, and with the present knowledge in the possession of Government, without running the risk of misleading the Government of India as to the liabilities which are probably before them. It is quite possible, however, that by the close

of the year a much more accurate estimate may be framed of the expenditure which will have to be incurred.

10. On the data assumed above, the probable outlay to 31st March next will be 54 lakhs of rupees, and subsequent till 30th of September 86 lakhs of rupees.

Telegram, 1st December 1876.

From GOVERNOR, Madras, to PRESIDENT IN COUNCIL, Calcutta.

Prices and scarcity of food continuing ; famine in ceded districts, while railway unequal to carry the grain consigned ; have notified that food shall have preference on railway until further notice.

Telegram, 2nd December 1876.

From PRESIDENT IN COUNCIL, Calcutta, to the GOVERNOR, Madras.

Your Excellency's telegram of yesterday; the Government of India quite approve of your orders about carriage of food on railways under the circumstances.

Telegram, 5th December 1876.

From SECRETARY, Madras, to COMMERCE, Calcutta.

Large numbers of people in distress flocking from Nizam's territory into Kurnool District, aggravating our difficulties. This Government hope immediate measures may be taken to obviate mischief by Hyderabad establishing relief works near our frontier.

No. 488.

From the Officiating Secretary to the Government of India, to the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS.

Calcutta, the 8th December 1876.

I have the honour to receive your letter No, 1,797, of the 24th ultimo, and the telegram from the Board of Revenue of the 1st instant, according to the latter of which the total loss to the State by the famine in Madras is computed at 2 crores

	1876-77.	1877-78.
	Lakhs.	Lakhs.
Loss of revenue	- 97	26
Relief expenditure	- 89	20

and 32 lakhs of rupees, as shown in the margin.

2. In reply, I am directed by the President in Council to observe that the Government of India are still uninformed as to the nature of the relief works which have been or are intended to be set on foot, the localities where they are to be organized, and the data upon which the necessity for so large an outlay has been assumed, as also regarding the grounds on which so large a loss of revenue is anticipated. Moreover, the full explanation called for, so far back as the 11th ultimo, of the grounds upon which the Government of Madras deemed themselves justified in incurring an expenditure of 32 lakhs in the purchase of grain, without any previous consultation with the Government of India, has not been received. Finally, if the proceedings of the Government of Madras in regard to the famine have been reported to the Secretary of State, as is presumed to have been the case, no copies of the Despatches have been furnished, as required by the standing orders on the subject.

3. I am to solicit the earnest attention of the Governor in Council to these omissions, and to request that they may be supplied without further delay. A complete and detailed programme of such relief works and operations as have been already sanctioned, or are contemplated, should be submitted ; and, pending the approval or revision of this programme, no work which involves a total expenditure of more than Rs. 30,000 should be commenced without the previous sanction of the Government of India. If any works which, with reference to their magnitude and cost, are inconsistent with the above condition, have been already set on foot, the fullest explanation of their nature, and of the grounds upon which it has been deemed expedient to select them, should be furnished. The President in Council trusts that he need hardly assure His Grace in Council that the Government of India do not under-rate the difficulties with which the Government of Madras have to contend, or the necessity of according to the local Government a large measure of discretion in dealing with the distress which has visited a considerable portion of the territory under their charge ; but it is absolutely essential that the authority which is responsible for the financial safety of the Empire, should be kept fully informed of the actual state of things,

and that no measures involving heavy expenditure should be carried out without its knowledge and approval.

I have the honour to be, &c.

No. 33 of 1876.

From the GOVERNMENT OF INDIA to the SECRETARY OF STATE FOR INDIA.

Calcutta, 15th December 1876.

In continuation of our Despatch of the 8th instant, on the subject of the

Letter from the Government of Bombay, dated the 27th November 1876.

Letter from ditto, dated the 8th December 1876.

Letter to ditto, dated the 15th December 1876.

Letter from the Government of Madras, 30th November 1876.

Telegram from ditto, dated the 12th December 1876.

Telegram to ditto, dated the 13th December 1876.

Letter to ditto, dated the 15th December 1876.

scarcity in Western and Southern India, we beg leave to forward, for your Lordship's information, copies of the communications specified in the margin.

2. We have given our most careful consideration to the observations made by the Government of Bombay in their Secretary's letter of the 27th ultimo, in which exception is taken to the interference which we have deemed it necessary to exercise, and

the requisitions which we have made for information in connexion with the expenditure on relief works in that Presidency. We should be very unwilling in any way to hamper the discretion which must necessarily be entrusted to a local Government called upon to deal with and, as far as possible, to avert the results of a grave disaster, but we conceive that it is clearly our duty to lay down and enforce general principles of action, to keep ourselves supplied with such information as is necessary to enable us to ascertain that the principles laid down by us are being duly followed, and to interpose in those cases in which it may appear that our orders have not been observed. In such a matter as that with which we are now dealing the entire financial responsibility rests upon the Government of India, and of that responsibility it is not in our power to divest ourselves. We have now deemed it necessary to repeat our instructions as to the policy which should be acted on, to state somewhat more in detail than had previously appeared requisite the mode in which effect should be given to that policy, and to exemplify it by instances taken from the returns which we have received. Our view has been that at the commencement of a scarcity rendering it necessary for the State to set on foot relief works, such works should be, as far as possible, of a local character, so arranged as to admit of the employment of the people in the immediate neighbourhood of their homes, and of such a character as not to commit the Government to an expenditure in excess of the requirements of the case, postponing the commencement of large and extensive projects until such petty works as are available have been exhausted. The expediency of acting on this policy at the beginning of a scarcity was remarkably exemplified last year during the scarcity in North Behar, which proved to be far less severe than was at first expected. At the same time we fully recognize the possibility, in the case of scarcity so wide spread as that which now afflicts the Presidencies of Bombay and Madras, of its being necessary before very long to fall back upon larger projects, and this question is engaging our careful attention.

2. The Madras Government, in their letter of the 30th ultimo, explain the reasons which led them to make the large purchases of grain adverted to in our Despatch of the 17th idem, without previous consultation with the Government of India. We regret that we cannot regard the reasons adduced as at all satisfactory, or as affording any sufficient justification of the course taken by the local Government. The case was one involving, not only principles of the utmost importance, but a financial liability of the first magnitude, and in our opinion there was nothing in the circumstances to necessitate the Government of Madras taking upon themselves to dispose of it. Your Lordship will observe that we have negatived a fresh proposal to purchase a further supply of grain. Whether this supply is intended to be merely an additional reserve for the payment of wages in kind to labourers on relief works, or for sale to the general public, so as to bring down the rates of the local grain sellers at principal markets, and to supply their deficiencies and want of enterprise in remote ones, is not very clear from the terms of the telegram, but the proposition appears to us inadmissible on either supposition, as we have no information to show that the large supply

already purchased is insufficient as a reserve, and the assumption by Government of the functions of the grain-traders would be, under present circumstances, wholly indefensible.

4. With reference to paragraph 6 of our Despatch of the 17th ultimo, your Lordship will observe that we have addressed a letter to the Government of Madras on the subject of the information regarding the condition of that Presidency which is afforded by the letter of the 7th ultimo, and certain statements subsequently received, as also by the Despatch of the Madras Government to your Lordship, No. 20, of the 2nd instant, and its accompaniments. We view the position of that Presidency with much anxiety, and are reluctant to remain without such information as may be available until the 15th proximo, when the general review referred to in paragraph 2 of our Despatch of the 1st instant will become due.

5. We would take this opportunity of explaining that the estimates of loss of revenue in Madras referred to in the 2nd paragraph of our last Despatch related to land revenue only. Besides this there will be a loss, estimated at nearly 20 lakhs, under the other heads mentioned in the accompaniments, which may be in some measure attributed to the famine.

We have the honour to be, &c.

(Signed) H. W. NORMAN, &c.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department,
to the SECRETARY TO THE GOVERNMENT OF INDIA.

27th November 1876.

I have the honour to acknowledge the receipt of your letter No. 412, of the 9th instant.

2. Before replying in detail to your remarks regarding the system of relief works in the Deccan and Southern Mahratta Country contemplated by this Government, and authorised by them to be undertaken from time to time, as the necessity for affording relief arises, I am directed briefly to recapitulate the circumstances under which this Government found themselves when they passed their Resolution No. 6,152, of the 27th October 1876, in the Revenue Department.

3. The monsoon crop had failed over a large area, comprising the whole or parts of nine Collectorates, and owing to the absence of the latter rains the rabi crops had not been sown. The prices of food-grains throughout the country had risen to almost famine rates. The cultivators who were in possession of grain stocks would not part with them, either waiting for higher prices or fearing the future on their own account, and the Marwarrees, Bunias, and grain dealers were not only holding out for exorbitant rates, but refusing altogether to give credit to the poorer classes of the people, who were without food or the means of purchasing it. Little or no field labour was available to this latter class to admit of their earning wages, either in money or in grain, for the support of themselves and families. This state of things, though prevailing more or less in six other districts, was, at the time referred to, understood to be more specially severe in the three Collectorates of Poona, Ahmednagar, and Sholapur.

4. On the 4th October last Government had despatched the Revenue Commissioner Southern Division, and the Superintending Engineer Central Division, to the three districts above referred to, with orders to report in what condition they found the country to be, and to recommend such relief works as might be found to be most suitable on which to employ people who were unable to find means of support in any other manner; such works to be in addition to the numerous small local works which Government had at that date from time to time authorised as charges against provincial and local funds grants, and as advances against the local funds future revenue.

5. The late Mr. Havelock and Colonel Finch, R.E., reported the result of their observations under date the 10th October last, and the information thus obtained from these officers and from other sources was made known to the Government of India in letter No. 5,890, dated 16th October, from this Government.

6. On the 27th of October, the date of their Resolution No. 6,152, this Government, so far from having received any assurance that the situation described in letter No. 5,890, of the 16th idem, had become or was becoming less serious, were then in the receipt of reports showing that not only was the distress increasing, but that all hope of rain likely to be of any use to the country had

passed away, and there was nothing for it but to face and be prepared for a difficulty which, in all probability, would augment from day to day, and which could not disappear until the arrival of the monsoon of 1877.

7. In addition to the failure of crops, which involved the loss of fodder, the rainfall had been so scanty over the affected districts, even as far as the crest of the Western Ghats, that all but the large rivers and streams at this early period of the season had almost ceased to carry water; village tanks were empty, and wells were rapidly drying up.

8. It was, however, believed that there were considerable stocks of food-grain in the country, though they were not brought to market; and it was confidently anticipated that the ordinary laws of demand and supply would begin immediately to operate, and that there would be large importations of foreign grain. This anticipation has been fully justified. At this moment the Great Indian Peninsula Railway has much more grain offering than it can carry, the Bombay market is full, and the imports can hardly be dealt with on the wharves and bunders. The ports of the Southern Mahratta Country are choked with grain, and the roads leading from the ports to the interior are covered with grain carts. Prices have fallen both at the great central market and at the more distant points, and there is no present reason to anticipate any insufficiency of grain.

9. The fact, however, remained and still remains, that at the date of this Government Resolution No. 6,152, although grain was beginning to come more freely within reach of the people, large numbers of them were entirely without the means of purchasing it; and only two courses appeared open to this Government, either to give alms to people who had no means of support and by pauperising to demoralize them, or to find them work, and thus to enable them to earn wages with which to buy food.

10. In arranging a system of works to effect this it was not open to this Government absolutely to select those which, under ordinary circumstances, might be best, or those which from their intrinsic value they would most desire to see carried out. Their choice was limited by various considerations, among the chief of which were the following:—

1. That the works should be so geographically distributed that each district should to some extent be provided for.
2. That they should be arranged with reference to the general water supply, *i.e.*, that while works should be provided for in the eastern or driest district as near as possible to the homes of the people who were the greatest sufferers, provision should be made to the westward for giving employment to the people as soon as the more eastern works became unavailable for large bodies of men from failure of water supply or other causes.
3. That they should be of such a character as to impose as little liability as possible on Government after the present emergency has passed away.
4. That they should, as far as possible, be defined works which had been considered and estimated for and previously contemplated on general grounds, rather than that they should be mere impromptu efforts of possibly doubtful after-utility, and, therefore, involving waste both as regards construction and maintenance.

11. It will at once be seen by a reference to the statements of works which were provisionally sanctioned in Government Resolution No. 6,152, of the 27th October, how these principles were applied. In addition to the various shorter pieces of roads, and to the larger tanks in the Sholapur, Nagar, Poona, Satara, and Dharwar Districts, all situated to the eastward, and in the driest portion of the country, the improvement of the long line of road from Sholapur to Hubli, passing through the most eastern districts, was provided for, and also the improvement of the road from near Sholapur to the frontier of the Kaladgi districts in the direction of Bellary. These roads constituted, so to speak, the eastern line of operations, and passing westward various intermediate works, both roads and irrigational, were arranged for until to the westward the great mail line is met with, the metalling of which throughout is much needed, and has been going on for several years with such scanty means as have been available.

12. This road, which runs for a length of 350 miles through the Deccan and Southern Mahratta Country to the westward (as the road from Sholapur to Hubli to the eastward traverses 208 miles of the same part of this Presidency), with its branch feeders, may be considered to be the reserve of the whole system, and to be capable of giving employment to large numbers of people when water or food

supplies fail in the eastern parts of the affected districts. Along this line water is always available, and on it, and by its feeding westerly branches, grain can always be passed with facility.

13. It may be here observed that none of the road operations included in the scheme involve the construction of bridges, drains, or masonry works. The intention is merely to improve existing fair-weather roads or tracks, and to metal the better class of roads. On any of the roads, therefore, work may be suspended without any great loss as regards what may have been done, and without imposing on the Government of India any great liability for after outlay in completion.

14. I am now directed to notice specially the remarks contained in your letter under reply. The Malsej Ghaut has already been opened out as a narrow track, and the useful expenditure of one lakh of rupees upon it can be arranged for without necessarily committing Government to any larger outlay after the present emergency has ceased. This Ghaut and its approaches have been strongly advocated by the Collector and the Revenue Commissioner, but this Government does not regard it as a work to be immediately commenced, but as one that will probably be required later on in the season, when water fails to the eastward; the water supply upon it and in its neighbourhood is not likely to fail, and the locality is a particularly healthy one.

15. The Neera Canal was not set down in the scheme for immediate execution, but it was alluded to as a work which might possibly be required, and which, if needed, would give employment to large bodies of men. It passes through one of the most arid tracts of the Deccan, with this peculiarity, that the line is never far distant from the Neera River, in the bed of which water can always be found.

16. I am, however, to observe that there are now many indications that it will be necessary very shortly to commence the Neera work, or some other large work, such as the Dhond and Manmar earth-works in this locality. Already the force of the labourers on the Mutha Canal amounts to about 14,500 persons, and is day by day increasing. At this rate the Mutha works will not afford sufficient employment for the whole season to the force likely to come upon it, and if any outbreak of disease were to occur, necessitating the breaking up of the labour parties, unless some other large works were ready to which to transfer them, the only alternative would be to camp them in suitable localities, and feed them.

17. (a.) The Government of India have been misinformed as regards the Poona and Pour Road; this road has not been disused of late years, on the contrary, the traffic along it is very considerable, and the Local Funds Committee of the district have long had it in contemplation to metal the line as far as Pour, and to improve the portion of it westward of the latter place as far as the Pimpree Ghaut; the local officers have strongly urged the work, and it is one that can be carried out without imposing additional liabilities.

(b.) When this Government proposed to the Government of India the construction of the earth-works of the Dhond and Munmar Railway, they suggested a work which, in their own opinion, and in that of their responsible officers, was more suitable than any other that could be named to afford relief to large bodies of labourers in three of the most affected districts. The section had been made from Dhond to Ahmednagar, the line had been thus far carefully located and marked out, the quantities had been calculated, and everything was ready for commencement at a day's notice. The Government of India did not, however, approve of this proposal, on grounds of general policy, and his Excellency in Council at once accepted their decision. As a substitute, in some small measure, for the work thus disallowed, this Government then arranged to undertake the improvement (metalling) of the existing road from Dhond to Ahmednagar, a mail road, and a line carrying a very considerable traffic. The Government of India now object to the work on the ground that it may be rendered useless by the railway which they have refused to allow to be commenced, and they suggest that the money it is proposed to expend upon it should be transferred to other roads in the neighbourhood. It is not known how the Government of India have arrived at any opinion as regards the relative merits of these local lines, but I am to explain that on the road from Kandi to Kashti, on the branch from that line to Deksal, and on the road from Ahmednagar to Karmala, it is not considered that more than the sums set down can, with advantage, be expended, or without commencing the works on a scale disproportionate to their importance, with the

risk of leaving them in an unfinished state at the close of the present emergency, and the certainty of throwing on the local resources a burden for the maintenance of the works which they are not in a position to accept. On the other hand, by undertaking the metalling of the Dhond Road as a relief work, no additional after-liability will be incurred, except as regards the maintenance of the improved parts, and the work itself can be stopped at a day's notice, with the advantage that all that may have been done will be useful. Further, the work, if done, will probably pay for itself, should the railway from Dhond to Ahmednagar, and thence to Manmar, be hereafter undertaken, by the facilities it will afford to the construction of the railway. I am to add that the metalling of the road under reference is now in progress. The consideration is not, however, now so much whether this or that road is better upon its merits as an undertaking, as how relief can best be given to certain people who are in need of help; and it is impossible that this Government can make satisfactory arrangements for relief works if they are to be met by objections such as those now put forward by the Government of India; if they are to be told that a certain railway should not go on as a relief work on grounds of general policy, and that a road substituted for it cannot be permitted to proceed, because this railway may eventually be constructed. This remark applies with equal force to the similar case of the road in the Dharwar Collectorate noted under paragraph (d.) of your letter. If the Government of India will sanction the construction of the earth-works of the Hubli and Belgaum Railway, this Government will not ask to be allowed to employ destitute people on metalling the Dharwar roads, but they trust that their efforts may not be frustrated by a ruling that these roads should not proceed, because there may, at some distant day, be a railway; for what is now wanted is the means of affording immediate relief in the way of employment to people who must otherwise be supported by alms, or must starve.

(c.) As reported in my telegram of the 15th, the roads from Sholapur to Sangola, and that from Sangola towards Jutt, have already been commenced. But other similar works will, undoubtedly, be required immediately in the Sholapur Collectorate, and this Government will bear in mind the suggestions made by the Government of India as regards the road from Janoni to Wangi; the selection of the particular works most suited for relief must, however, to a great extent, depend upon the reports and recommendations of the local officers.

(d.) In paragraphs 11 and 12 ante, the subject of the metalling of the mail road in the Satara and Belgaum Collectorates has been touched upon, and it has been advanced that, owing to the circumstances of this road, as regards water and food supplies, and looking to the nature of the work itself—breaking metal—the undertaking is one particularly suitable for affording relief; and the intention was, and is, that it should be regarded as a reserve work to be commenced when the more eastern lines have been completed, or when the water supply upon them fails. I am, however, to state, with reference to the provision made for metalling in the Belgaum District, that on the urgent requisition of the Civil and Public Works Department local officers, a transfer of Rs. 1,00,000 has been authorised from the sum of Rs. 4,00,000 set down for metalling the mail line, to the improvement of the road from Belgaum to Kaladgi, an existing fair-weather road greatly in need of improvement, and on which a considerable traffic already exists; this road passes through a part of the district where relief is greatly needed.

(e.) In answer to the inquiry made under this section of your letter, “whether it would not be preferable, and perhaps more economical, to organise minor works in the several Talukas,” I am to draw attention to the assurance from this Government in telegrams of 3rd October and 11th November, and in letter No. 5,890, dated 16th October, that, as regards minor and local works, the resources of this Government have already been virtually exhausted. Apart from the question of funds, it must also be apparent to the Government of India that this Government, and their local officers, cannot, at a moment's warning, improvise local works that would be of any real value, and if an extensive system of petty works scattered all over the surface of the country were undertaken without consideration, and without sufficient superintendence, a waste of public funds would undoubtedly ensue, which it is the desire of this Government to avoid, and which they think may, to a great extent, be avoided by the plan they have adopted. Already in the districts affected, outlay on minor works, as shown in

Rs. 12,88,930

the margin, has been authorised and is in progress, and from the corresponding statement which is attached to this letter, the Government of India

will learn the details of the proposals, and will see that this Government endeavoured to cope with the difficulty that has arisen at its commencement, in the hope that it would pass away without necessitating the greater efforts on the part of the Imperial Government which must now inevitably be made. I am to add, however, that this Government has not overlooked the question of minor works, and is from day to day authorising their commencement in different localities; but such works must not be regarded as in substitution of the larger operations that have been determined on, but in addition to them.

(f.) The road from Dholkeir to the Bellary Frontier already exists as a fair-weather road, but admits of great improvement; it is not, it may be allowed, very urgently necessary to improve it as a thoroughfare, but that, it is submitted, is not the entire question; the road passes through that part of the Kaladgi District which is most affected by the drought; it is locally very useful, and its improvement was suggested and very strongly advocated by the late Mr. Havelock as a work particularly needed to afford relief. No feeders falling into the road from the Bhima to the Malprabha have been projected, and none are known to be required by the local officers; at all events, there is no time to search for or to discuss them, and, if put in hand, they would not, in the opinion of this Government, be such good relief works, or prove of so much permanent value, as the line already selected, which traverses the eastern parts of the district from end to end.

(g.) It is quite true that the drought has been most serious in the eastern parts of the Khandesh Collectorate, but it has been serious also in the western parts; the Nagli crop, on which the Bheels for the most part subsist, has, in a great measure, failed, and it is absolutely necessary that Government should be prepared to provide work for the hill-men near their homes; in this view, and looking to the necessity that will probably arise, the Jakria Bari Road was set down as a part of the general scheme, but it will not be commenced until it is really needed.

18. As regards your paragraph 4, the further communication as regards irrigation works will be awaited; in the meantime, it is observed that several works whose estimated cost is in excess of the limit assigned by the Government of India have been commenced, and cannot be suspended without causing very great distress.

19. It is admitted that the information which this Government has hitherto been able to place before the Government of India as regards the scheme of works contemplated has not been as full as it is desirable that it should have been, but it is hoped the Government of India will understand that the efforts of this Government, and of its officers, have been directed heretofore, and must continue to be directed, to coping with the practical difficulties of the situation in which they find themselves. By your telegram of the 16th, and your letter No. 365, of the 25th October, the Government of India were pleased to authorise such expenditure in providing work and relief as this Government might consider necessary, and expressed their "fullest confidence that His Excellency the Governor in Council would exercise the discretion vested in him, so as to prevent any loss of the lives of Her Majesty's subjects, without incurring an expenditure of public money in excess of the necessities of the case." It has been my duty to show in this communication in what way this Government have endeavoured to prove themselves deserving of the confidence thus reposed in them. The district officers have cordially co-operated in giving effect to their instructions; and this Government, I am to say, are not aware up to this moment that their measures have failed in any way, or have been attended by any evil results. The emergency has arisen very suddenly; it applies to a large area; the difficulty of getting returns and information from, and of directing operations at, remote points is very considerable; there is little time for correspondence or discussion; and if this Government is to be subjected to the necessity, before taking any action, of proving its position step by step to the Government of India, and of making clear to them the intrinsic and relative merits of every local road or work, and the opportuneness of the time selected for its commencement, his Excellency in Council, I am desired to say, does not see how the necessary operations are to be sufficiently, promptly, or successfully carried out, for circumstances alter suddenly, and materially, from day to day.

20. If the Government of India desire to withdraw their expression of confidence in this Government in regard to the selection of relief works, or think that this Government are disposed to adopt needlessly extravagant measures, it would, as stated in my telegram of 15th instant, be better that the Government of India should name some specific amount beyond which they are not prepared to sanction

outlay, and this Government will then endeavour to meet the difficulty in the best way that they can, without exceeding any limit that may be laid down; but I am to remark that in all probability the sum that is already contemplated by this Government will be insufficient to deal successfully with the case, even in the manner that this Government propose to deal with it, *i.e.*, by organising and carrying out relief works, and if it were decided to deal with it in the only other possible way, *i.e.*, by organising relief circles, and feeding that portion of the population who are in want with grain purchased or imported by Government, the outlay would, undoubtedly, be very much larger, while there would be less to show for it.

21. When the scheme of relief works which has, to a great extent, been objected to by the Government of India was devised, there were present, in addition to his Excellency the Governor and his colleagues, and the Secretaries in the Revenue and Public Works and Irrigation Departments, the Revenue Commissioner of the Southern Division, the late Mr. Havelock, and the Collectors of Poona, Ahmednagar, Sholapur, and Satara; and it was in consultation with these officers, and especially with the late Mr. Havelock, who had great experience in the Deccan and Southern Mahratta Country, and who was an officer of recognised ability and judgment, that the plan of relief was laid down. His Excellency in Council has now availed himself of the permission of the Government of India to appoint a third Revenue Commissioner of the Southern Mahratta Country, and the officer who will fill the appointment is a gentleman of experience and ability, and whose advice and assistance will, no doubt, be very valuable to this Government at this juncture in carrying out the arrangements that have been made in accordance with the policy that has been determined on.

22. Attached to this letter is a statement, which will supply, to a great extent, the information called for in your 6th paragraph. It has not been found practicable to obtain all the details asked for in time to accompany this communication, but the rest will follow as soon as they can be collected.

23. The information called for in your concluding paragraph has already been furnished to you in part, with letter from this Government, No. 6,331, dated 4th November, in the Revenue Department. This information will be revised and completed in another communication, and every endeavour will be made to keep the Government of India thoroughly informed of the state of matters in this Presidency.

I have, &c.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

8th December 1876.

I have the honour to acknowledge your telegram of yesterday's date, in which you state that the reference alluded to in paragraph 4 of your letter No. 412, of the 9th ultimo, "necessarily awaits information urgently called for in paragraph six" of the same letter.

2. In reply, I am directed to observe that, after commenting in considerable detail on the road works of relief proposed by this Government, in paragraph 4 of your letter, you state, as regards irrigation works—

"These are under scrutiny in the Irrigation Department of the Government of India, and I am to request that, pending a reference, which will be shortly made, and a final decision thereon, no works of this nature may be commenced involving an expenditure of more than Rs. 30,000."

Looking to the context of your paragraph 6, which appeared especially to refer to roads, and also to the nature of the inquiry, and suggestions contained in your 3rd paragraph under letters from (a) to (g), it was understood by this Government that, as regards irrigation works, inquiry and criticisms similar to those which had reference to roads, would be forwarded by the Government of India to this Government, after a previous reference to the Irrigation Department; and on this interpretation of your letter, the information regarding irrigation works was withheld by this Government, as reported to the Government of India in the 18th paragraph of my letter No. 220 C.W.—904, dated 27th ultimo.

3. I am, however, directed to submit to the Government of India, a statement of the irrigation works in question, and to add that, as reported in my telegram of to-day, the following works, estimated to cost over Rs. 30,000, have been commenced, *viz.*—

In the Dharwar Dambul Tank.

Do. Medleri "

In the Satara Nehr Tank,

Do. Pingli "

I have the honour to be, &c.

No. 521.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY
TO THE GOVERNMENT OF BOMBAY, Public Works Department.

SIR,

Calcutta, 15th December 1876.

I HAVE had the honour to receive your letters quoted in the margin, and in reply am directed by the President in
No. 220 C. W.-904, dated 27th November 1876. Council to communicate the following obser-
,, 257 C. W.-986, „ 8th December „ vations for the consideration of His Excellency the Governor in Council.

2. The President in Council regrets to observe from various parts of your letter first quoted, that the Government of Bombay are disposed to consider the requests for full information regarding relief works which have been made, and the orders suspending certain works, and works above a certain money-limit, pending the receipt of explanation, as indicative of a withdrawal of the expression of confidence in the Bombay Government which was conveyed in the telegram of the 16th October and the letter of the 25th idem, and of an intention to subject that Government to the “necessity, before taking any action, of proving its position step by step to the Government of India, and of making clear to them the intrinsic and relative merits of every local road and works, and the opportuneness of the time selected for its commencement.” With reference to this impression on the part of the Government of Bombay, nothing was further from the intention of this Government than the withdrawal of the confidence which was formerly expressed. The Government of India has laid down certain principles upon which relief works are to be organised, and has given to the local Government full authority to organise works on those principles, with an expression of confidence that they will be borne in mind. Within the broad lines of the policy which it deems necessary to prescribe, the Government of India has every desire to leave to the local Government the greatest practicable freedom, and has no intention of entering into detailed criticism of individual works, otherwise than under wholly exceptional circumstances. But the Government of India has not divested itself,—and cannot, in view of its own responsibility to the Secretary of State in Council, and its duty to the tax-payers of India, divest itself—of the duty of obtaining full information of what is going on, and of interposing, if it should appear that the limitations placed on the authority conferred are not being duly observed.

3. The general principles which were laid down in October last, on the information then before the Government of India, while there was still doubt in regard to the extent of the scarcity with which we should have to deal, may be very briefly summarised as follows:—

(a.) That provincial resources should in the first instance be fully utilised (*vide* letter of September 29th, No. 350).

(b.) That local works near the homes of the people should be organised, and large projects avoided. On this subject the following instructions may be noted:

Telegram, October 4th.—“Local relief works and other relief operations may be started, selecting such works as can be found near the homes of the people, in preference to committing Government to commencement of large projects.”

Telegram, October 16th.—“Local works of a character to give employment for some months should be organised. * * * The district officers ought to have had no great difficulty in organising such works. * * * It is not deemed advisable to embark on any large project which will involve the continuance of heavy expenditure after the emergency has ceased.”

Telegram, October 29th.—“In works for relief, those should be preferred which can be completed or far advanced towards completion by the outlay which the scarcity demands, and which will not collect large gangs at a distance from their homes.”

(c.) That the administration should be strengthened at the outset, in order to give early assistance and obtain full information: *vide* letter of October 25th, No. 365, by which sanction for an extra Commissioner and for an extra officer in every distressed district and taluka was conveyed.

(d.) That the Government should abstain from making purchases of grain in the general market on its own behalf, except in the last resort: *vide* letter of October 25th, No. 365.

- (e.) That the Government of India must be supplied with full information in order to enable it "to estimate with accuracy what may be the exigencies of the situation, or to do justice to the proposals for relief which are submitted."

4. The President in Council is here glad of the opportunity of recognising the efforts which have been made by the Bombay Government to utilise provincial resources and to avoid interference with the grain trade, as well as the success by which those efforts have hitherto been attended.

5. In order to carry out the policy of minor local works in the several distressed talukas, it would have been desirable to explain it clearly to the Collectors, and to direct them, in the first instance, to commence at once such works within a certain limit, as were *then* urgently required, and subsequently to submit as soon as possible, for regular sanction, programmes of further works in order of utility, which it would be practicable to carry out at future successive periods if the pressure increased. The feasibility of finding such works is shown both by the examples of the Poona and Sholapur districts, in which they have been ably and fairly spread by the Collectors over the more distressed portions of their charges, and by the recent applications of the Collectors of Satara, Belgaum, and Kaládgi to be allowed sanction for them in preference to the mail road metalling, and other single works, which had been proposed. As auxiliary to, and equally important with the above, was the immediate division into two of the unwieldy charge of the Revenue Commissioner, Southern Division, in order to control and stimulate the action of the Collectors, and the increase of the district and taluka staff, with the view of early and accurate information being procured, and of minor works being rapidly started and efficiently supervised.

6. Upon the receipt of the programme which accompanied the Resolution of the Bombay Government, No. 6152 of 27th October 1876, it appeared to the Government of India that the principles above referred to had not been fully borne in mind in the case of several districts, and of some specific works; that a large tract, such as the east of Khandesh, was almost unprovided for, while Satara, though nearly the lowest in the scale of distress, obtained the largest money assignment; that works, such as the Nira Canal, were in contemplation which would involve a heavy future responsibility; and that in large areas, such as Belgaum and Kaládgi, the minor works proposed were not sufficient to meet the requirements of the districts. Certain roads, moreover, were set down for metalling, which would be superseded if railway projects, still under consideration, were ultimately carried out.

7. Under these circumstances, the President in Council deemed it his duty to point out two projects which he considered ought not to be undertaken; to request explanation regarding certain works which seemed to be of doubtful expediency, and to suspend in the meantime the commencement of those works, as also that of all irrigation works of magnitude, without the previous sanction of the Government of India. As the Government of Bombay were expressly left free to substitute smaller and more strictly local works for those which have been stopped or suspended pending enquiry, it is hoped that no practical inconvenience can have resulted.

8. I am now directed to communicate the instructions of the Government of India on the explanations afforded in paragraphs 14 to 17 of your first-quoted letter under reply.

- (a.) *Malsej Ghát*.—This project still appears of doubtful expediency under existing circumstances, both as being a large work likely to involve heavy expenditure during a series of years, and as regards the locality. A further representation may be made hereafter, if it be still considered necessary.

- (b.) The *Nira Canal* project may be submitted to the Government of India in this Department, with special explanations as to (1) the feasibility of undertaking distinct portions of it without committal to the whole, which the Bombay Government are understood to affirm, and (2) the proportion of earthwork or other employment for unskilled labour which it will afford. If the Public Works Department, to whom it will be referred, should be satisfied with it in all respects, its commencement may be sanctioned, if that measure be hereafter thought necessary. In the meantime no work should be begun upon it.

It may here be explained that the Government of India has never intended to affirm that minor works will be sufficient to afford relief

during a famine of prolonged duration, but it considers they should be drawn on almost entirely at the first while doubt remains in regard to the actual amount of relief that will ultimately be required. Larger works should be held in reserve, and should be undertaken when it becomes certain that provision must be made for the support of the large numbers of the able-bodied poor.

- (c.) *Poona and Pour Road*.—Under the explanation given, the objection is withdrawn. The work may be commenced when absolutely required.
 - (d.) *Dhond and Nagar Road and Anigherry to Sunguticop Road*.—As these works are on the lines of railways, neither of which have been condemned by the Government of India, and which may eventually be constructed, expenditure on metalling appears undesirable. It is open to the Government of Bombay to make any complete proposition regarding either line which they may think necessary. The amounts in the programme should be appropriated to other local works, and operations suspended as soon as practicable, without throwing labourers out of employ. It is observed that the Government of Bombay has lately found one transfer from the first-mentioned work practicable.
 - (e.) *Sholapur—Sangola-Jutt Road*.—It is hoped that a transfer to the Janoni-Wangi or other roads may be practicable. In any case, no further assignment should be made without reference.
 - (f.) *Mail Road metalling in the Satara, Belgaum, and Dharwar Districts* (nine lakhs). This assignment cannot be approved, and should be reduced to two lakhs in all, to be expended on such portions of the road as may actually traverse distressed talukas.
- A thorough organisation of local relief works should be substituted when and to such extent as may be required.
- (g.) *Dholkheir-Bellary Road*.—As the work has been begun it may proceed, but the grant should be reduced to one lakh at most, and minor works substituted, such as tank clearances, which it appears the Collector is able to start. There could be no better and more ultimately useful work throughout the whole of the distressed districts than clearing, repairing, or deepening the tanks, and digging new ones. There are also doubtless many cross roads in the Collectorate capable of improvement.
 - (h.) *Pimpalner Tank*.—This should not be commenced till full explanation of the project has been afforded, and the necessity for so large a work in West Khandesh has been established. A revised programme for the whole of Khandesh is evidently required.

9. With reference to irrigation works, I am directed to observe that the telegram from the Government of India of the 10th ultimo was intended to shew that the statements were not to be delayed. The statement now received does not, as already explained in my telegram of the 12th instant, contain sufficient information to enable the Government of India to accord sanction either generally or in specific instances. The principle on which it is framed is moreover uncertain, as it would appear from the records of the Government of India that the estimate for the Bhokur tank is not Rs. 56,945, but Rs. 6,03,815, and that the work is difficult, involving much masonry. I am to request that a revised statement may be submitted, showing in each case the full estimate, proportion of unskilled labour the work will afford, locality it is intended to relieve, *probable* period when it may be required if a reserve work, and any other details necessary for a decision, including whether the sanction of the competent irrigational authority has been obtained.

10. The President in Council also requests that full effect may be given to the objects which the Government of India had in view in sanctioning an additional Commissioner, by requiring both the Commissioners to visit at an early date all the important points of their charges, and investing them with such discretionary powers of sanctioning or transferring grants for specified objects, within suitable limits as may ensure effective and prompt action in accordance with the policy which it has been determined to follow.

11. In conclusion, I am to add that whenever complete information has been submitted and the review called for in my letter of the 30th ultimo, together with the proposals of the Government of Bombay based on it, has been received and considered, the President in Council contemplates leaving the local Government perfectly free in carrying out the plan of operations which may be decided

on. It is hardly necessary to urge the paramount importance, not only on financial but on other grounds equally serious, of undertaking no relief works, whether great or small, which the Government of Bombay is not satisfied are absolutely required to save the lives of the people, or to prevent excessive and dangerous suffering.

I have, &c.

(Signed) T. C. HOPE,
Additional Secretary to the Government
of India.

30th November 1876.

From the CHIEF SECRETARY TO GOVERNMENT, Madras, to the SECRETARY TO THE
GOVERNMENT OF INDIA.

I am directed to acknowledge, with thanks, the receipt this day of your cipher telegram intimating that the Government of India have arranged to meet the draft of this Government on them for the part purchase of the reserve of grain which they have found it imperatively necessary to secure.

In previous telegrams explanation has been asked of the action of this Government without prior communication with the Government of India, and in reply I am directed to lay before the Government of India the circumstances which, in the opinion of His Grace the Governor in Council, rendered prompt action indispensable.

The public conviction of the absolute failure of the north-east monsoon was, necessarily from the nature of the event, arrived at suddenly. The result was that prices sprang at a bound to a point which they have scarcely ever been known to reach before, and from which they have hardly, even now, at all receded. The rise was so extraordinary, and the available supply, as compared with well-known requirements, apparently so scanty, that merchants and dealers, hopeful of enormous future gains, appeared determined to hold their stocks for some indefinite time, and not to part with the article which was becoming of such unwonted value. It was apparent to the Government that the facilities for moving grain by the rail were rapidly raising prices everywhere, and that the activity of apparent importation and of railway transit did not indicate any addition to the food stock of the Presidency, or really afford security from temporary disaster. So it speedily proved. Grain was hurriedly withdrawn by rail and sea from the more remote districts, to their serious prejudice, and poured into central depôts, but retail trade up-country was almost at a standstill. Either prices were asked which were simply beyond the means of the multitude to pay or shops remained entirely closed. Grain riots by hungry mobs of men, women, and even children, and more serious dacoities, accompanied by violence, followed in many parts of the country, and elsewhere outbreaks occurred in the hope of checking exportation, and thus preventing dreaded scarcity. These disorders, though speedily and effectually suppressed, added another element of confusion and danger.

The Government found themselves suddenly confronted with this position, that a large proportion of the labouring population of a wide tract of country had become at once dependent on State relief works for the means of earning their daily food, but that that food was not obtainable with whatever money they could earn.

In this emergency, and to meet these peculiar circumstances, the Government decided at once that a reserve of grain was indispensable. The objection to interference with ordinary trade was not for a moment absent from the consideration of Government, nor was the possibility of the crisis being of short duration, although liable to constant recurrence, left unnoticed. But the Government could not wait for the restoration of a more normal condition of trade. They had to secure the supply of food for vast numbers, daily increasing, who could not purchase grain, at any rates of wages it would have been prudent to issue, for the local grain merchants raised their prices daily, with the special object of forcing up the rate of wages. Payment in grain, and direct purchases from the local markets by the Government, was the only course left. The Government knew that the purchase of grain would have to be continued for months, and it seemed to them that there was an absolute necessity that they should not be entirely dependent on a most uncertain condition of the grain trade, insufficient from indisposition to sell regularly, and extravagant in its demands when willing to sell. While the Government were satisfied that a moderate reserve was an essential resource on emergency, they were very desirous to avoid their transaction being immediately known. A knowledge that Government was in the market would immediately alarm the native trade, and cause an immediate rise in prices. It was for this reason that they employed Messrs. Arbuthnot and Co. confidentially, whose purchases of grain and re-sales at Bellary, where matters were most critical, had the effect of inducing other English firms to enter actively into the grain trade, with the greatest advantage as regards the supply of grain where it was dangerously deficient, and in promoting some activity in the retail trade and a slight downward tendency in prices.

On this occurring, the Government ceased to draw to any considerable extent on their reserve and have since resorted mainly to the local markets.

The idea of a Government reserve to meet the various difficulties arising from the caprices of native trade, and the actual insufficiency of local capital, was not novel or original. It had been advantageously adopted in the North-West Provinces in 1873-74, and was the main feature of the policy of Lord Northbrook's Government during the Bengal famine.

The Government did not much count on secrecy being long secured, but they hoped—and in this have not been disappointed—that they should be able to purchase their first reserve without any considerable adverse influence on the foreign or home markets, and in this they believe they have succeeded.

There was no time prior to action to discuss the policy of holding a reserve of grain with the Government of India. A disaster from failure of food supplies occurring in the distressed districts was in the opinion of Government imminent, which opinion was confirmed by subsequent facts, and the responsibility for this could not, even had it been desired, have been placed on the Government of India. At the same time the Madras Government felt they could count on the generous support and confidence of the Government of India, which they are assured will be continued.

The Government have every inducement to husband the reserve carefully. The real prospect before them is in no wise improved, and for months to come growing numbers must remain dependent on the State works for wages, whether in cash or grain, and many of these works will be in places where the means of private trade are small, and transport difficult and costly.

They may hope, with even their present reserve, to tide over the interval which must elapse before they obtain a large share of a future abundant grain crop in Burma. But the condition of a large portion of the Presidency causes them the very greatest anxiety. Throughout the Presidency the last year's seasons were unfavourable, causing a reduction in the stocks of food in store, and in this year the rains of the south-west monsoon, on which the cultivation in the ceded districts especially depends, failed; and now there is the certainty that the rains of the north-east monsoon, on which the greater portion of the Presidency relies, are no longer to be expected. Cultivation cannot now be resumed until the heralding rains of the next south-west monsoon fall, and even then many weeks must elapse before any crop can be grown and reaped. The impending inevitable loss of cattle will sorely aggravate the distress of the small ryot, who, it must be remembered, derives but little benefit from the high prices which the merchants obtain from grain.

The Government are, however, sanguine as to the capacity of the country to recover from the disaster when this extraordinary season of drought shall have passed, and meanwhile are relieved from their most pressing anxiety by the knowledge that they hold in their hands the means, to some extent, of meeting any sudden emergency in the grain market, and of averting the catastrophe of localised famine. As a financial transaction they are satisfied that their swift action was a most wise economy.

Of the pressing need for its immediate adoption on the present occasion, the Government are now more than ever convinced.

12th December 1876.

Telegram from GOVERNOR OF MADRAS, to the PRESIDENT IN COUNCIL.

Emergency great and serious; markets rising; auction price at Kurnool yesterday eleven three quarters; private trade does not supply remote districts; grain payments on relief works essential; unless exorbitant wages paid and many local works abandoned, must either purchase at high rates in local market, or purchase prospectively as proposed from growing crops; the first course will cost nine or ten rupees, the second will cost seven eight a bag or thereabouts; unless otherwise directed shall adopt latter course.

13th December 1876.

Telegram from SIR A. ARBUTHNOT, to GOVERNOR, Madras.

Your cipher telegram of 12th instant. We cannot sanction large expenditure in further purchases of grain without more full and complete information than can be given in a telegram. Your proposal to purchase growing crops is new to us and is not understood. As at present advised, we think it better to incur the risk of paying highly in local markets for such grain as may be immediately required than to incur immediately the heavy liability which appears to be contemplated.

From the OFFICIATING SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS.

Calcutta, the 15th December 1876.

I AM directed to convey to you the following remarks upon the communications of the Madras Government specified in the margin, with their respective enclosures, which have been considered by the President in Council.

Letter to the Government of India, No. 1,599 A., of November 7th.

Letter to the Government of India, No. 1,648 A., of November 14th.

Letter to the Under Secretary of State for India, No. 40, of November 18th.

Despatch to the Secretary of State for India, No. 20, of December 2nd.

2. On the 25th of October the Government of Madras were requested, by telegram, to forward, at the earliest practicable date, statements showing the condition of each Taluk in the distressed districts and the amounts sanctioned for relief works, and on the 24th ultimo explanation was given, by telegram, of the particulars regarding relief works which were required.

3. These requests have as yet been complied with only to the extent of some of the particulars in the case of the ceded districts, but the extent of failure of crops and the details of relief works in those districts, as also specific information under all heads for the remaining districts understood to be distressed, are still wanting. As it appears from the Proceedings of the Board of Revenue, No. 184, of November 7th, that the Collectors of the ceded districts

were called upon to supply what was wanting, and as a similar requisition will no doubt have been made in the case of other Collectors, I am directed to request that such information as may have been received may be submitted with the least practicable delay. It will be understood that this will not supersede the complete review which will be due on the 15th of January, in accordance with my endorsement of the 30th ultimo.

4. I am further directed to request that for the future the Government of India may be regularly furnished with weekly reports of the same general nature as those which are furnished by the Bombay Government, and which it would appear from paragraph 7 of the Despatch of the Madras Government, No. 20, of the 2nd instant, to be intended to forward to the Secretary of State. As an introduction to these reports the President in Council would be glad to have a brief review, like that issued for Bombay, of the scarcity and the measures taken to meet it, down to the date of the first weekly report.

5. In continuation of my letter No. 439, of the 25th ultimo, and in further explanation of the imposition of a pecuniary limit by my letter No. 488, of the 8th instant, I am to state that the President in Council, while fully recognising the probable necessity of eventually falling back upon large works, as a reserve for relief purposes at a certain advanced stage of a famine of prolonged duration, considers that they should not be resorted to until extensive use has been made of minor projects which do not involve risk or future expenditure, and do not draw the people to a distance from their homes, and which usually afford ampler scope for unskilled labour.

Revenue Despatch No. 6, 12th January 1877.

From the SECRETARY OF STATE FOR INDIA to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

1. I have received and considered in Council the Despatch of your Excellency's Government of 15th December last, No. 33, on the subject of the famine in Western and Southern India.

2. This Despatch, together with other Despatches from your Government and the Governments of Bombay and Madras received by this and preceding mails, which have for the most part been separately answered, but more especially your Excellency's telegram of the 5th January, have now enabled me to form a more adequate estimate of the present and probable future extent of the calamity with which your Government and those of the two Presidencies have to deal.

3. I have been informed, by successive Despatches of your Government and of the Government of Bombay during the months of October and November, of the increasing failure in the crops which had become apparent in several districts of Southern and Western India, as well as of the measures which had been taken to relieve distress and to provide employment for the people. Reports had indeed been previously received indicating that in some parts of Madras the failure of the rain had, as early as July, been such as to involve local failure of the crops and some loss of revenue. But it was only on the receipt of the Despatch of the Government of Madras of the 2nd December that I was made fully aware of the vast area in that Presidency which has been more or less affected by the prevailing drought, and the magnitude of the operations which it has become necessary to undertake in order to preserve the population from extreme distress.

4. It now appears that in Madras the scarcity more or less affects the districts of—(1) Cuddapah, (2) Bellary, (3) Nellore, (4) Kurnool, (5) Madura, (6) North Arcot, (7) Salem, (8) Chingleput, (9) Coimbatore, (10) Kistna. It apparently also threatens (11) Trichinopoly, and (12) Tanjore. It should further be added that distress has made itself felt in Mysore, and in some parts of the Nizam's country, a further element of difficulty which I cannot exclude from my consideration. I observe also that the area of the distressed districts of Madras amounts approximately to 80,000* square miles, and the total population amounts to nearly eighteen millions.

* These figures are given from general statistical tables, exact details not having been yet received.

5. The drought in Bombay has extended to nine districts in the Deccan and Southern Mahratta country, including the districts of—(1) Khandeish, (2) Nasik, (3) Ahmednuggur, (4) Poona, (5) Sholapur, (6) Sattara, (7) Kaladgi, (8) Belgaum, and (9) Dharwar. It must be added to this that some adjoining Native States, such as Kolapore, Phultun, Akulkote, and Sawunt Waree have also been affected. The area of this territory, exclusive of Native States, comprises about 54,000 square miles, and the total population amounts to eight millions, of which five millions are reported to be included in the tracts immediately affected.

6. Such being the case, both Governments have, as reported in correspondence with your Excellency's Government, organised with great activity relief works, the particulars of which are stated in the Despatches noted in the margin.† Large gangs have been employed in making roads digging wells, and constructing and clearing tanks. Greater works, such as railroads and canals, are, as I understand, in con-

† Madras, 2nd December 1876.
 " 9th December 1876.
 Bombay, 6th November 1876.
 " 13th November 1876.
 " 27th November 1876.
 " 4th December 1876.

templation, and, should necessity arise, they will be undertaken with the sanction of your Lordship in Council. By the last accounts, the very large number of 840,000 men are reported as employed on the relief works of Madras, and 250,000 on those of Bombay.

7. I gather from a letter from the Government of Bombay, dated 30th November last, that it is anticipated by that Government, that the distress will increase in intensity until the month of April, and from that date will gradually diminish, as the crops raised in the monsoon of this year are matured, until its cessation may be expected about the month of September next. The numbers for whom relief will have to be provided in the Bombay districts, by public employment, in each month during that period, were estimated (though, of course, on data to some extent conjectural) by the Government of Bombay, in the letter above referred to, as follows :

	Persons.
In December their number may be	- 200,000
" January 1877	- 300,000
" February "	- 450,000
" March "	- 750,000
" April "	- 1,000,000
" May "	- 800,000
" June "	- 500,000
" July "	- 300,000
" August "	- 100,000
" September "	- 50,000

8. No similar table or estimate is to be found in the papers which have been received from Madras, but as it must be assumed that the intensity of the distress in that Presidency will increase as the season advances, it is alarming to find that the number of persons already employed on relief works amounts, as before stated, to 840,000.

9. The impossibility of applying adequate tests to applicants for relief on such occasions is unfortunately notorious, but I trust that there will be no practical difficulty in checking any serious abuse which may arise out of the measures adopted by Government for the present and pressing relief of destitution.

10. I observe with satisfaction that, although the price of grain has advanced in the affected districts in some cases to three times the ordinary rate, the operations of private trade appear, at all events in Bombay, to have been also considerably stimulated, and that the supply of food imported from other districts not affected by the present drought has been hitherto apparently sufficient to support the population.

11. On the other essential condition to the success of the relief operations, namely, effectual means of transport, the reports are somewhat more reassuring, and the Governments of Bombay and Madras do not appear to entertain any apprehension of an inability to carry the necessary supplies to the affected localities. I cannot, however, regard without uneasiness the consequences of imperfect communications in districts which cover so wide an area, and some of which lie at so great a distance from the lines of railway.

12. I have instructed your Excellency, by telegram of the 29th December, to cause me to be furnished regularly, week by week, with a telegraphic summary of the leading facts as they arise in each Presidency, and with special narratives by mail of the progress of the famine, and of the proceedings of the two Governments under your Excellency's directions ; I have also expressed the deep concern with which Her Majesty's Government have received the painful intelligence of the visitation which has befallen so large a portion of Southern India, and I have conveyed to you the assurance of their hearty support in the measures which may be necessary to mitigate its effects, and to provide adequate relief to the suffering districts.

13. I have abstained from any remarks on the particular measures which have been already taken, because, so far as the information before me enables me to form an opinion, I have no reason to doubt their sufficiency or the general judgment which has been displayed in the difficult task which has devolved on the two Governments.

14. I desire to leave to your Excellency in Council the widest discretion in all administrative details, entertaining as I do the fullest confidence in your judgment and ability, and that the experience at your command, especially that derived from the late famine in Bengal, will enable you, while sparing no efforts for the relief of distress and the preservation of life, to take all reasonable precautions against any waste or unnecessary strain upon the resources of the State. It is clear that the strain in any case must be very severe, and I await with much anxiety the views of your Excellency in Council as to the financial measures which you propose to adopt.

15. I have also conveyed to you by telegram my full approval of the special mission of Sir R. Temple to Madras and Bombay to confer with the respective Governments, and to visit in person the distressed districts. I cannot doubt that his recent and valuable experience, and his great administrative ability, will be of the highest service in assisting the local Governments in the further organization of relief operations, and in promoting that unity of principle and action which it is desirable to secure in circumstances so grave and so complicated as the present.

16. I desire now briefly to advert to the two special questions which form the subject of the Despatch from your Government of 15th December. The first question arises out of a correspondence between your Government and the Government of Bombay on the subject of the construction of works which would "commit the Government to an expenditure in excess of the requirements of the case," and which would continue after the cessation of the existing distress.

17. Some difference of opinion appears to have arisen between the two Governments on this point, but I gather from your Excellency's telegram of the 5th instant that you have withdrawn the objection of your Government to the larger works which have been proposed by the Government of Bombay, in consequence of explanations submitted by the Governor of that Presidency.

18. Under these circumstances, I reserve all expression of opinion on this question until I am in possession of further information as to your views on the principle involved.

19. The second question is that of the disapproval expressed by your Government of purchases of grain—some already effected and others in contemplation—by the Government of Madras, in order to provide a reserve, in the event of a deficiency in the supply of food through private enterprise.

20. It is obvious that a measure of this importance, affecting, as it does, one of the most vital principles of famine administration, should not have been adopted without the full concurrence and sanction of your Excellency's Government. Telegraphic communication being at the command of the Government of Madras, I can see no reason why full explanation should not have been given, and the requisite sanction solicited.

21. In the Resolution of the Government of India, of 26th February 1875, on the reports of the scarcity of 1873-74, which sum up the results of the large experience gained on that occasion, the following passage occurs:—

"It is only where there is a great deficiency, and there is also reason to believe that traders will be unable to meet that deficiency, that it is right for the State to interfere for the purpose of supplementing the general food supply. Under such circumstances, however, this is the only means whereby a dearth of food can be prevented."

It is only upon an accurate estimate of the extent of the deficiency and of the means of supplying it that a decision can be based, and I am glad to think that, on a review of the conditions which led the Government of Madras to an opposite view, your Government was able to come to the conclusion that the deficiency was not so great as to justify an interference with the ordinary operations of trade.

22. The Despatches before me do not, however, afford any complete information as to the probable food supplies which will be available during the ensuing year, or as to the general effect which has been as yet produced on the price of grain

by the abnormal diversion of so large a trade from its ordinary channels, both in the exporting and importing districts. I observe that in Bombay the tendency to a downward movement of prices has already manifested itself, and I trust that a similar effect will soon become apparent in Madras.

23. Such a result, or its contrary, will afford a valuable indication of the condition of the supply of food. The state of prices will therefore need close and constant attention from your Excellency's Government, and upon which I shall wish to receive the fullest information which can be obtained.

24. In your Despatch, under reply, you inform me that the Governments of the respective Presidencies have been instructed to send to Calcutta, by the 15th January, a complete and revised report on the condition and prospects of the affected districts. Your Excellency will, I doubt not, already have communicated to me by telegraph such portions of those reports as are essential, and I shall hope to receive the reports themselves at as early a date as will allow of their being accompanied by a mature expression of your views upon them, after they have received the careful consideration of your Excellency in Council.

25. I have sent a copy of this Despatch to the Governments of Madras and Bombay,

I have the honour to be, &c.

(Signed) CARNARVON.

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For Her Majesty's Stationery Office.

EAST INDIA.

PART II.

COPY OF CORRESPONDENCE

BETWEEN

THE SECRETARY OF STATE FOR INDIA AND
THE GOVERNMENT OF INDIA,

ON THE SUBJECT OF

THE THREATENED FAMINE IN WESTERN
AND SOUTHERN INDIA.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
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3	Government of India -	January 5, 1877, No. 1 (Revenue, Agriculture, and Commerce).	Appointment of additional secretary to Government of India in Department of Revenue, Agriculture, and Commerce for famine work. The Bombay departmental arrangement for conduct of correspondence agreed to. The Bombay Government have been informed that the general objection to commence large relief works is withdrawn, on the understanding that any excess expenditure beyond the actual requirements will be met from provincial resources. Sir R. Temple has been deputed on a special mission to visit the districts of Madras and Bombay, and confer with the local governments.
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33	Government of India	January 26, 1877, No. 5 (Revenue, Agriculture, and Commerce).	The condition of Bombay and Madras not improved. Sir R. Temple has visited all the central and southern districts of Madras. He makes suggestions which will reduce expenditure by 10 lakhs per mensem.
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58	- - - -	" " -	Minute No. XVII.—Giving summary of recommendations made to the Madras Government for securing economy.
59	- - - -	- - - -	Memorandum explaining reductions made by Sir R. Temple on his previous estimate of relief expenditure in Bombay (p. 27).
60	Secretary of State -	March 22, 1877, No. 26 (Revenue).	Replying to Government of India Letter of 2 Feb. 1877, No. 6.

CORRESPONDENCE.

Revenue, No. 13.

From the SECRETARY OF STATE FOR INDIA to the GOVERNOR-GENERAL OF INDIA
IN COUNCIL.

India Office, London, 31st January 1877.

Para. 1. The accounts contained in the latest Despatches which have reached me on the subject of the prevailing scarcity in Western and Southern India clearly indicate its increasing gravity, and the magnitude of the task which has devolved both upon your Excellency's Government and the Governments of Madras and Bombay.

2. In leaving to your Excellency the widest discretion as to the measures of relief which must be undertaken at this juncture, Her Majesty's Government in no way desire to decline their full share of responsibility for the policy adopted, and the results by which it may be followed, but they feel that this duty can be best discharged in an emergency such as this by giving every confidence to the Indian Executive, and by supporting to the utmost the humane and enlightened efforts of those whose knowledge of facts and local experience render them most competent to deal with the various questions which arise from day to day, and which, in the majority of cases, call for prompt and practical decision.

3. In dealing, therefore, with the many grave questions which at such a time have forced themselves on my consideration, I have abstained from instructions or suggestions which, under less urgent circumstances, it might have been my duty to make, for I have felt it right to avoid every expression of opinion on the part of Her Majesty's Government which might in any degree have the effect of embarrassing your Excellency's Government in the execution of the arduous task before it, and lead to hesitation and delay at a moment when action and decision are of paramount importance.

4. I have followed this course the more readily on this occasion, from my reliance on your Excellency's ability to deal with the difficult questions which have already arisen, and must continue to arise, in connexion with the work of relief, and also from my confidence in the devotion of all those who in different places, and in the discharge of different duties, are serving the Crown to the utmost of their power. The unhappily too recent experience of famine administration acquired by many distinguished officers in India has, in one sense, given to your Excellency an exceptional advantage, by affording you the means of discriminating between conflicting theories and obligations, so that whilst, on the one hand, adhering to principles the value of which has practically been tested, you may, on the other, avoid the repetition of any mistakes which subsequent inquiry and a larger knowledge have disclosed.

5. But, while abstaining from any attempt to trench upon your Excellency's full liberty of action in matters which can only be dealt with in India itself, I may remind you that it is of the highest importance that the Government of India should obtain, in their acts and decisions, the concurrence and support of Her Majesty's Government, as the authority which is finally responsible to Parliament for the administration of Her Majesty's Indian Empire, and that for this purpose, regular and full communications are quite essential, even though the necessity of attending to this duty should make some addition to the heavy labours of those engaged in the work of relief.

6. You may, nevertheless, rest assured that so far as I can, consistently with the objects which I have now indicated, avoid imposing any burden on the already heavily taxed machinery of Indian administration, I will do so.

7. There are several questions of principle to which the present calamity has given a character of urgency, and which are among the gravest which can arise in connexion with British rule in India. It is, for example, the duty of Her

Majesty's Government, in concert with the Government of India, to adopt a policy by which some provision can be made for meeting what, unhappily, our experience shows are periodically recurring calamities, without causing grave financial embarrassments to the State, or throwing upon the people of India fiscal burdens which are beyond their power to bear.

8. Your Excellency has transmitted to me by telegraph a more or less condensed statement of the instructions issued to Sir R. Temple. It would be obviously premature for me to express any conclusive opinion on these instructions until I am in possession of the full text of the document, but it is not too soon for me to approve the general principles, as I understand them, on which your Excellency proposes to proceed. I need raise no question of detail as to the best system of relief operations, the limits of State interference with private trade, the means of transport, or the distribution of famine charges, all of them matters of the gravest importance, and all of them referred to in your telegrams of the 5th, 16th, and 21st instant. I will only say that I feel assured that, in common with successive Governments, both in England and India, on similar occasions to this, the principal aim which your Excellency's Government has before it, as undoubtedly it is that of Her Majesty's Government, is the saving of life and the protection of the people from the extremity of suffering by famine; and it has been a source of unqualified satisfaction to learn your belief that this end may be attained without disastrous expenditure. At the same time I recognise with your Excellency the concurrent obligation of regarding the general interest of that vast Empire which Providence has placed under British rule in the East as the great end for which, as a whole, each separate part of your policy must be framed. And duly appreciating the heavy responsibility thus placed upon you not to permit the extremely grave dangers of the future to be outweighed by the immediate and more obvious difficulties of the present, I trust that, by the careful and firm action of your Government, the balance between the various requirements of such a position will be truly maintained, so that while the lasting interests of the generations to come are guarded, your earnest endeavours will be successfully directed to the protection of the existing population from the evils that now threaten them.

9. I agree, therefore, with your Excellency in deprecating an indiscriminate distribution of relief, which can only swell the amount of distress and ultimately demoralise the persons relieved. Whatever relief is given by the State should, as far as possible, in my opinion, as I understand also in yours, be given in combination with, and in return for, some kind at least of labour which, whilst it serves as a test of the necessity of the relief, may tend to keep alive in the mind of the people a sense of self-respect, and a reliance on their ability to work for their livelihood. I am, consequently, fully alive to the necessity on every ground, financial, political, and moral, of exercising as rigid a test in all relief operations as is possible, and though on occasions such as these, where the extent of those operations is so vast and complicated, the difficulty is unusually great, I have no doubt that your Excellency will know how to maintain an even course between the conflicting obligations of a care for human life on the one hand, and a strict and even severe administration of relief on the other.

10. Famine administration has, unfortunately, become in India a subject of more than occasional importance, and in the working out of the instructions issued to Sir R. Temple I hope that fresh and valuable light will be thrown upon the serious problems involved. Her Majesty's Government will await with anxious interest your reports as to the measure of success which attends the application of these rules to the conditions of the existing scarcity, as well as the expression of your Excellency's own opinion as experience is gained of the results of the operations which you are now conducting.

11. I have only to add that to the financial measures which it will be necessary to adopt in order to enable the fiscal system of India to meet this heavy liability, I shall be prepared to give immediate attention whenever I am placed in possession of the conclusions of your Excellency's Government on this important question, and of the details connected with the subject which you will doubtless forward.

12. Whether it will be possible, by new fiscal arrangements, to obtain the necessary financial equilibrium, and whether any reduction in some branches of expenditure is still a possible resource, are matters which will, I know, receive

your most careful consideration, and on which I shall await the expression of your Excellency's deliberate opinion.

13. On a review of what I have now written, I am aware that it may be open to the charge of suggesting nothing new, nothing that has not already passed through your Excellency's mind, and how much it dwells on the gravest difficulties, without attempting the task of precisely defining lines and limits of duty in such an emergency as this. But, in spite of the possibility of such a construction being placed on my words, I have yet felt bound to put them on record, as the strongest proof which I can give of the desire of Her Majesty's Government to bear their full share in the responsibilities now pressing on all the Queen's servants entrusted with the administration of Her Majesty's Indian Empire.

I have, &c.
(Signed) CARNARVON.

No. 1 of 1877.

From the GOVERNMENT OF INDIA Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Delhi Camp, 5th January 1877.

IN continuation of our Despatch dated the 15th ultimo,* on the subject of the Letter from the Government of Bombay, No. 88, dated 18th Dec. 1876. scarcity in Western 109.
Ditto. ditto, No. 309, „ 23rd „ and Southern India,
(Substituted) letter to ditto, No. 521, „ 15th „ we beg leave to forward for your Lordship's information
Telegram to the Secretary of State, dated 5th Jan. 1877.
Letter to the Government of Bombay, dated 5th Jan. 1877.
Gazette of India (Extraordinary) of the 5th Jan. 1877.

copies of the communications specified in the margin.

2. In consequence of the great increase of labour caused by correspondence relating to the famine, we have found it necessary to relieve the Honourable Mr. Hope of the duties which devolved on him in the capacity of Officiating Secretary to the Government of India in the Department of Revenue, Agriculture, and Commerce, and to appoint him, as a temporary measure, to be Additional Secretary to the Government of India in that Department. Mr. Hope will receive, in addition to the usual emoluments of an additional member of the Council of the Governor-General, which office he will continue to hold, the same deputation allowance (Rs. 777-10-8) as before. We trust that Your Lordship will approve of this arrangement.

3. After full consideration of the explanation afforded by the Government of Bombay on the subject of the concentration in the Public Works Department of that Presidency of all correspondence relating to relief operations, we consider that the arrangement was, under the circumstances, the most suitable which it was practicable to make.

4. We have received from that Government a statement, forwarded herewith, affording certain further information regarding the irrigation works commenced and contemplated in the Bombay distressed tracts, and have also conferred personally with his Excellency Sir Philip Wodehouse on the general condition of affairs and the policy to be pursued. We have in consequence determined to substitute for our letter to Bombay, No. 521, of the 15th ultimo, another letter of the same date,† of which a copy is appended. This letter expresses in a clearer, and at the same time somewhat modified, form the policy which at that date, and on the information then before us, we deemed advisable, and is accompanied by a further letter of to-day's date by which our restriction upon large works which the Government of Bombay may deem to be indispensable for the preservation of life in any of the affected tracts is withdrawn, on the understanding that any excess expenditure beyond the actual requirements of the scarcity will be met from provincial resources under the new system of finance about to be introduced. † Part I., p. 116.

5. Your Lordship will have learned from the Despatch of the Madras Government, No. 22, dated the 23rd ultimo, the very serious dimensions which the distress in that Presidency has already attained, and the apprehensions entertained for the future. After careful personal conference with his Grace the Governor

of Madras, we have decided upon deputing Sir Richard Temple on a special mission to visit the distressed districts, to confer with the Government on the spot, and to offer for their consideration any suggestions which he may deem proper. Considering the advantage of dealing with the entire famine upon consistent and harmonious principles, together with the contemplated future connexion of Sir Richard Temple with Bombay, we have deemed it advisable to include that Presidency within the scope of his mission.

6. We trust that the arrangements referred to in the two last preceding paragraphs, which have already been communicated to your Lordship by telegraph, will meet with your Lordship's approval.

We shall not fail to keep your Lordship duly informed, by telegraph and letter, of the progress of affairs.

We have the honour to be, &c.

(Signed) LYTTON, &c.

Local, No. 88 E.—1063 of 1876.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY to the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

V.—Establishments.

Public Works Department, Bombay, 18th December 1876.

I am directed to acknowledge the receipt of your letter No. 435, of the 24th November 1876, stating that the Government of India regard as open to grave objections the concentration, in the Public Works Department, of all correspondence relating to the regulation of relief operations in this Presidency.

2. This arrangement was proposed by his Excellency to his colleagues in the Government after careful consideration of existing circumstances, with the advantage of nearly five years' experience in the working of this Government, and with the full belief that it offered the best prospect of beneficial results. It was at once and unreservedly accepted by the other members of the Government. In the resolution by which it was brought into operation, the Government prominently noticed that it was for the Revenue Commissioners and Collectors to take care that the wants of the people received all practicable attention. These officers have shown their thorough appreciation of their duties in this respect. In so doing, they have met with the cordial co-operation of the officers of the Public Works Department, and nothing has occurred to warrant an apprehension that the considerable friction anticipated by the Government of India will arise.

3. I am to observe that the Government is the same, whether it be administered through the Revenue or the Public Works Department. The member of the Government who deals ordinarily with revenue questions, also deals ordinarily with public works matters. His Excellency the Governor himself supervises all arrangements relating to the relief of the distress in the Deccan and the Southern Mahratta country; and, therefore, so far as the policy that has been adopted in dealing with the difficulty, or the application of that policy is concerned, it is quite immaterial through what channel the correspondence is conducted. Promptness of action is essential, and this, his Excellency in Council believes, can best be secured through the instrumentality of the Public Works Department, in which the great mass of the business must necessarily arise.

4. In conclusion, I am to convey the thanks of this Government for the prompt confirmation of the appointment of Mr. Macpherson to be Under Secretary. It is proposed to assign to him the salary of the office, viz. Rs. 1,250, while so employed.

IRRIGATION DEPARTMENT.

MEMORANDUM of further INFORMATION relating to RELIEF WORKS, containing explanation of necessity for, and expected return from, each work, and proportion of Earthworks or other work for unskilled labour which it will afford. (Forwarded with Letter of 23rd December 1876, from the Secretary to the Government of Bombay, Public Works Department, to the Secretary to the Government of India.)

Mutha Canal.—Information in respect of the necessity for, and expected return from, this work has already been separately afforded in the reports on the projects submitted from time to time.

The portion of the sanctioned project remaining incomplete at the time of its resumption as a relief work comprises earthwork to the extent of Rs. 2,46,524, and other work requiring unskilled labour to the extent of about Rs. 50,000, or Rs. 2,96,524 in all. It has been suggested that the extension of the canal 5½ miles beyond the present sanctioned terminus will be desirable as a famine relief work. This would involve a further total outlay of Rs. 84,949, of which Rs. 29,878 would be for earthwork.

17,483 people are now employed on this work, and the number is still increasing.

It is computed that this work may afford employment for another 3½ months, when the people must be transferred elsewhere.

Vide letter No. 328 W. I.
—739 of 11th November
1876, to the Government of
India.

3rd section	-	Rs. 58,618
4th do.	-	77,492
5th do.	-	42,315
6th do.	-	68,099
		Rs. 2,46,524

Supa Tank.—This work is more of a village water supply tank than an irrigational work. It may, during good seasons, furnish water for a limited area of irrigation. The necessity for it may be stated to be the general want of water that exists in this part of the collectorate, as proved by the rain returns. The revenue from the work cannot be estimated. Its chief benefit will be indirect in maintaining and increasing springs for water supply to the people and cattle. The work is almost entirely earthwork.

Motaba Tank.—The Motaba tank is situated in the vicinity of Yewat, and will form a very important auxiliary to the Mutha Canal, from which it can be filled during the monsoon months, when the water supply is abundant. The necessity for the work is explained by the circumstance that the rainfall of the district, on which the cultivation is entirely dependent, is excessively small and very uncertain. The site of the work is situated between Kásurdi and Pátas, where the rainfall has been as follows:—

						Pátas.	Kásurd.
1863	-	-	-	-	-	*9.52	—
1864	-	-	-	-	-	*7.38	—
1865	-	-	-	-	-	*11.69	—
1866	-	-	-	-	-	*6.57	—
1867	-	-	-	-	-	*10.88	—
1868	-	-	-	-	-	*10.32	—
1869	-	-	-	-	-	22.86	25.62
1870	-	-	-	-	-	26.31	25.99
1871	-	-	-	-	-	21.75	17.99
1872	-	-	-	-	-	—	10.94
1873	-	-	-	-	-	—	7.67
1874	-	-	-	-	-	25.84	10.39
1875	-	-	-	-	-	13.00	12.90
1876	-	-	-	-	-	6.03	8.22
Total						172.60	119.72
Average						14.37	14.97

The tank is estimated to cost Rs. 1,60,373. It will furnish a never-failing supply to an area of 3,172 acres in quadrennial rotation, from which the revenue at rates now in force will be Rs. 21,411. The working expenses will not exceed Rs. 5,000, including establishment and collection charges; and the net revenue will thus ultimately exceed 4.9 per cent. on the gross outlay, which will amount to Rs. 2,03,666, as per margin.

Almost the entire estimate for this work is for earthwork and excavation eminently suited for famine labour. It will employ about 4,500 people for six months.

Seersophal and Mullut Tanks.—The necessity for these works may be explained on the same grounds that would exist for the storage of water in any district where the crops are at present entirely dependent upon a most uncertain and capricious rainfall, which is seldom, if ever, sufficient to produce good crops, and frequently fails altogether, as it has done in the current year.

The Pátas Tank is designed principally for water supply. As in the case of Supa, there may in good seasons be a limited area of irrigation under the tank, but the return from it will be principally indirect. The estimate is almost entirely for earthwork.

Nira Canal.—Two-thirds of the whole area (2,79,680 acres) to be brought within easy reach of the means of irrigation by this work are in the Indápur Taluka.

The necessity for the work may be best explained by the following extracts:—

EXTRACT from a REPORT by Colonel J. T. FRANCIS, Survey and Settlement Commissioner, N. D.,
Vide Selections from Records of the on the Revision of the Settlement of the Indápur Taluka, dated
Bombay Government, No. CVII. January 1867.

Para. 151. The climate of Indápur has unfortunately, however, prevented the cultivators from realising that material wealth which is indicated by the immense rise in price of grain referred to above. The rainfall is most precarious. For two and three consecutive years together it is either insufficient or the falls so untimely, and at such long intervals apart, that no crop is brought to maturity. Such has been the case with part of the Kullus division. A good average crop every other year is too liberal an allowance as an average of the general run of seasons. From the Jamabandi reports it would appear that the cultivators get a good crop about once in three years; that of the other two, one is a year of almost complete failure, and one of middling crops only.

Para. 152. It is only within the last few years that pluviometers for gauging the rainfall have been introduced into inland districts.

* Monsoon fall only.

I have been able to get but five years' returns for Indápur, which give the following result:—

			Inches.	Cents.
Year of 1861-62, total fall gauged	-	-	1	50
Do. 1862-63, no return	-	-	0	0
Do. 1863-64, total fall gauged	-	-	3	18
Do. 1864-65, do.	-	-	11	40
Do. 1865-66, do.	-	-	6	95
Do. 1866-67, do.	-	-	5	24
			29	27
Average fall for the five years	-	-	5	85

This speaks volumes regarding the climate; for what can be said of a district which has an average rainfall of somewhat less than six inches per annum.

Para. 188. It will, I trust, have been made evident from the general tenor of my remarks that a remarkably short and capricious rainfall has had a very material effect in retarding the prosperity of the Indápur district. In short, that unless we can cure this lasting defect, it can never attain to a permanent state of prosperity. Capital will accumulate in a cycle of good seasons, to disappear again, however, to a considerable extent as each unfavourable cycle comes round.

Para. 189. Irrigation is the only means of remedying this defect, and I would here draw attention to the importance to this district of a project* recently brought forward by Colonel Fife for damming up the Mutha River in a locality about 12 miles west of Poona. It is calculated that the head of water which will be raised by this work will furnish a supply for irrigating the country from Poona to a distance of nearly 100 miles eastward, extending throughout a considerable tract of Indápur. To a drought-stricken district, irrigation which will afford a supply to compensate only for the regular rainfall will be inordinately valuable. But how incomparably greater will be the value of a supply which can be obtained after the season for the monsoon falls is past; and Colonel Fife's project would do this. It would supply water sufficient for raising a rabi crop; and instead of Indápur being at this season a parched and barren-looking country, with scarcely a trace of vegetation, we should see crops ripening with the golden autumn tint upon them.

Para. 190. I have estimated that two rupees per acre might be levied as an average rate for all lands for which water would be available for rabi crop. The estimated supply would raise the average out-turn fully tenfold in excess of the ordinary monsoon crop produced. Instead of having to fight against seasons, pledging his land to the money-lender in bad, and paying off the debt in good, the cultivator could calculate on his regular annual return of produce, and would soon become independent of such pernicious assistance.

Para. 191. But besides the actual supply of water obtainable from the canal, an increased supply would be afforded to the wells of the district by percolation from the canal. A striking example of this, connected with the new Jamda Canal in the Khandesh Collectorate, has recently come under notice. Wells that were dry before the canal was opened have now a good supply: nallas which had ordinarily little or no water at this season, have a good running stream in them: and thus not only directly, by means of its canal, but indirectly also, has this work been the means of spreading a supply of water throughout the country; and equally important results may be expected to follow upon the extension of Colonel Fife's project to the Indápur district.

Para. 192. Supplemented by a work of this kind, the district would rapidly attain to a state of prosperity under the assessment now proposed. The horrors of famine would for ever be averted; and the people, whilst accumulating wealth, would become large contributors of the articles of export produce, and consumers in an equal degree of the manufactured imports—the cotton and the woollen goods, and the hardware articles—which form the staple wealth of the British manufacturer.

EXTRACT from a LETTER from Mr. J. W. HADOW, C.S., Revenue Commissioner, S. D., No. 2,026 of 1867, forwarding above Report by Colonel Francis.

Para. 19. According to the statement embodied in paragraph 163, the amount of the proposed re-assessment exceeds the present assessment by Rs. 43,309, an addition of 57 per cent. on the present assessment of the taluka. Still with this addition the average rate upon the whole culturable area will be only 7 annas 6 pies per acre.

Para. 20. This is moderate enough, it must be allowed, as an average rate, but I do not consider it the least too low for Indápur. With reference to existing prices, and probability, if not certainty, of their continuing as high as they are now for years, improved communications, new markets, and such-like considerations, if the Indápur Taluka had an average rainfall which could be depended upon, be it more or be it less, the proposed rates might be pronounced too

* See Government Selection, Irrigation of Series No. II.

Note.—The project now being carried out from the Mutha is not that referred to by Colonel Francis in his para. 189, but a smaller scheme with canal at a lower level, which does not reach the Indápur districts at all.

low for a 30 years' settlement; but it must not be overlooked when considering the question of rates that Indápur is one of the most unfavourably circumstanced of any of the talukas in the Deccan or Southern Mahratta country as regards its rainfall. In some parts of the taluka rain appears never to fall seasonably, and it is generally when seasonable scanty and precarious. Year after year lands are left unsown for a want of moisture, and those that are sown produce next to nothing; failures of crops, more or less general and extensive, appear to be the rule, and a good, or even a fair, average harvest, the exception.

EXTRACT from a REPORT by a COMMITTEE, consisting of the Survey and Settlement Commissioner Northern Division, the Collector of Poona, and Executive Engineer Irrigation, Poona. convened under G. R. No. 98 I.—2,666 of 1867, to determine the survey operations to be undertaken for Irrigational Works.

"The locality most urgently deserving of attention is the valley of the Indápur Taluka lying between the Bhima and Nira Rivers, as the annual falls of rain are so uncertain and capricious, that there is frequently a failure of crops for several years in succession, and it may with reason be termed a drought-stricken district. It would, therefore, be advisable to have preliminary surveys undertaken to see whether it would not be feasible to afford relief to the district by throwing a bund across the Nira River at some point above the old bridge on the Satara road, and cutting an irrigational canal."—Government Resolution in the Revenue Department, No. 715, dated 19th February 1869.

LETTER from the AGENT, REVENUE COMMISSIONER, S. D., No. 339, dated 1st February 1869—submitting Correspondence from the Collector of Poona relative to the serious failure of rain in a portion of the Indápur Taluka; stating that, owing to a succession of bad seasons, the failure has necessitated in 43 villages a remission of rent varying from four to eight annas in the rupee; and soliciting Government's approval of the measures of relief, adopted under the emergency of the case.

RESOLUTION.—The proceedings of the Revenue Commissioner are fully approved.

2. Remissions to the extent of 50 per cent. have been granted in 43 villages in the case of Jirayet or arable lands, and to the extent of 25 per cent. in 13 other villages in the Indápur Taluka.

3. As there was a considerable enhancement of rates consequent on the recent revision, the revenue for collection will still be in excess of that hitherto levied.

4. The Right Honourable the Governor in Council considers that much credit is due to Mr. Jardine for the careful inquiry he has made into the condition of this taluka.

5. Kulwar, or individual, remissions should never be permitted; but in cases where it is necessary to forego a portion of the revenue, this should be done by a percentage on the entire village.

6. Government sanction an expenditure of Rs. 1,000 on clearing the prickly pear from the kurans near Alligaon, and will avail themselves of Major Berthon's offer to superintend the work. The Kharackwasla works, on which it is calculated 1,000 men will be engaged, will, it is hoped, afford sufficient employment for those in search of it; but Government will be prepared to take into favourable consideration any further proposals that may be submitted for affording relief in the shape of work.

7. These papers should be transferred to the Irrigation Department for perusal. The drought from which the districts comprised in the Nira and Bhima valleys have continuously suffered, renders it absolutely necessary that some steps, if possible, should be taken to utilise the water of these rivers.

TABLE of RAINFALL at Indápur, extracted from the "Government Gazette."

1863	-	-	-	-	-	-	-	3.01
1864	-	-	-	-	-	-	-	9.78
1865	-	-	-	-	-	-	-	6.95
1866	-	-	-	-	-	-	-	4.06
1867	-	-	-	-	-	-	-	10.74
1868	-	-	-	-	-	-	-	8.43
1869	-	-	-	-	-	-	-	25.62
1870	-	-	-	-	-	-	-	25.77
1871	-	-	-	-	-	-	-	14.60
1872	} not forthcoming.							
1873								
1874								
1875	-	-	-	-	-	-	-	22.90
1876	-	-	-	-	-	-	-	4.89

These extracts prove indisputably the necessity for the work, and it is merely necessary to note that the work now proposed for execution is precisely that recommended by the Committee which met in 1868.

The complete scheme, for which detailed plans and estimates are ready, comprises storage works in addition to the canal, which is to carry 945 cubic feet a second and will be 129 miles

long, commanding an area of 2,79,680 acres. The storage works will largely supplement the existing rabi supply, besides furnishing water for the irrigation of perennial crops, such as sugar cane, fruit trees, and garden crops. It is proposed, however, to construct the canal, chiefly for monsoon irrigation, on a reduced scale as a distinct project to afford relief. The cost is estimated at Rs. 16,00,000, or including establishment, tools, and plant, Rs. 19,52,000. It is calculated that the water supply available without the aid of storage will suffice for the irrigation of an area of 56,849 acres, which, at water rates current on existing works recently brought into operation, will yield a gross revenue of Rs. 1,42,993, or deducting maintenance, which may be taken at one rupee per acre irrigated, the net revenue would amount to Rs. 86,144, or 4·4 per cent. on the gross outlay of Rs. 19,52,000.

Of the total estimate for works, Rs. 16,00,000, it is calculated that earthwork to the value of Rs. 6,00,000 might be undertaken, thus affording relief to about 25,000 people for eight months.

As the Mutha Canal Works become completed, the people might be transferred to this canal without much difficulty.

Bhatodi Tank, and Ojhar Canal.—These are sanctioned works for which allotments exist in the current budget. They are included in the statement of relief works, as they will, of course, afford employment to the persons requiring relief. No further explanation as to their necessity, or the return to be derived from them, appears necessary.

About one half of the expenditure in the case of Bhatodi is for earthwork. On the Ojha Canal it is principally for the completion of necessary works required to pass the water for irrigation on to the tail of the sanctioned canal.

Ojhar Canal Extension.—The original scheme comprised a canal 19 miles in length, but pending experience of the proportion of the area commanded which would be irrigated each year, the water supply being limited, the length of the canal was restricted to 10 miles. The extension, besides distributing the advantages of irrigation over a wider area, will afford an abundant supply of water for monsoon crops during periods when the rainfall of the district fails, and will be indirectly as well as directly of great benefit.

The area under command of the canal will be increased by the extension from 3,840 to 23,040 acres, of which it is calculated that 7,680 acres will be irrigated annually, yielding a net revenue of Rs. 21,024, or 7 per cent. on the gross direct outlay for the entire project. These figures will, however, require revision, which will be made before sanction is applied for to commence the work.

The cost of the earthwork on extension is estimated at Rs. 20,000.

Ekruk Tank.—*Vide* remark under Bhatodi and Ojhar Canals.

The expenditure is principally upon masonry works required to complete the scheme.

Ashteh Tank.—The necessity for works of irrigation in the district in which this work is situated is sufficiently demonstrated by the fact that during the current year the rainfall has been only 8·09 inches, the average being 21·72, and that a similar drought occurred only five years ago, when the rainfall was 11·49 for the whole year. The cultivated area of the taluka is 2,21,066 acres, of which 8,823 acres, or 3·9 per cent., is now irrigated principally by wells.

The cost of the work is estimated at Rs. 5,28,760, or Rs. 6,45,260, including all direct charges. The net direct revenue is estimated at Rs. 33,400, or 5·1 per cent. on the outlay of Rs. 6,45,260.

The canals costing Rs. 1,06,051 it is not contemplated to undertake at present. Of the balance, Rs. 4,22,708, the cost of earthwork is estimated at Rs. 3,64,000, and the remainder is for land compensation which, if paid later in the season, will give some of the people the means of purchasing seed for their next season's crop and subsisting during the period between the cessation of relief works and the next harvest.

Yelwiji Tank, Mavinkop Tank, Tiliwali Tank, Madag Tank, Hereh Kerur Tank.—These are all works for which detailed plans and estimates have been prepared, and which are under execution from funds sanctioned to the debit of the current budget grant. Further detailed explanation regarding them does not therefore appear necessary.

In each case almost the entire sum is for earthwork.

Dambal Tank.—The improvement of this work is necessary as a means of extending the irrigation existing under it.

Estimated revenue is Rs. 3,175, or 5·4 per cent. on the total direct outlay, which will amount to Rs. 59,004.

Almost the entire amount of the estimate is for earthwork, and therefore suitable for relief.

Medleri Tank.—The object of the work is to increase the irrigated area of the district, which has an average rainfall of 19·44 inches. This sufficiently explains the necessity for the work.

The net return on the outlay is estimated at from 2·5 to 4·7 per cent. The revenue, it is estimated, will ultimately be Rs. 3,400.

Out of the total estimate, Rs. 46,644, the earthwork amounts to Rs. 39,644.

Doni Tank.—This work is necessary as a means of storing water and utilising it for the irrigation of land in a district where the rainfall is both light and uncertain, the total for this year being 5·17 and average 22·32, instead of allowing it to flow to waste in the sea; *vide* this Government No. 244 A. I.—652 of 1875.

The revenue is estimated at Rs. 6,488, giving a net return of 5·4 per cent.

The sanctioned design is principally masonry work; but if undertaken as a relief work, it is intended to substitute earthwork for the masonry to the extent of Rs. 65,426.

Bankeri Tank.—The average rainfall for six years in this district was 14·48 inches, and under such conditions it is hardly requisite to enlarge as to the necessity for storage works for irrigation.

The tank is an old one, constructed by the former Government of the country, and is breached, and has been useless for a very long period. The restoration is estimated to cost Rs. 1,75,351, and the net return on the gross outlay is estimated at 5 per cent.

The expenditure is all suitable for famine relief.

Mayni Tank.—See remark under Yelwiji, Mavinkop, &c.

Yerla Irrigation, Nehr Tank.—Information as to the necessity for, and probable return from, this work, is contained in the printed reports submitted to the Government of India; *vide* their No. 173 I., dated 8th April 1876.

The amount provided for expenditure is for earthwork, and excavation suitable for relief.

Pingli Tank.—The following extract from Colonel Fife's report, submitting this project to Government, will explain the necessity for it:—

EXTRACT FROM REPORT by the CHIEF ENGINEER for IRRIGATION, No. 4,102 of 1875.

"The Mán Taluka, it will be remembered, is one of the driest in the Deccan, and the revenue officers have for years represented it as standing in urgent need of irrigation.

"The average rainfall, it now appears from Major Penny's carefully prepared statements, is about 25 inches, but it is very irregular, varying from 16'42 to 38'60, and as the country is steep and the soil light, it is easy to understand that the district cannot prosper without the aid of storage works."

The rainfall of the current year has been 8'42 inches.

The work will, it is estimated, yield a gross revenue of Rs. 19,200, giving a net return of 4'37 per cent. on the expenditure now proposed, or 3'15 per cent. on the total expenditure, including outlay incurred on the canal at Gondowli, the supply to which is to be supplemented by the tanks. The revenue estimate is based on agreements made with the people.

The expenditure provided for is for earthwork, and excavation suitable for relief.

Mhaswad Tank.—The following extracts explain the necessity for this work:—

FROM REPORT by Colonel W. C. ANDERSON, Survey and Settlement Commissioner, Southern Division.

"The country through which the proposed canal is to pass, which I know well, is situated in a tract where irrigation is more required than in any other part of the Presidency. The annual fall of rain is always very small and also uncertain as regards opportuneness. The realisation of fair crops is a matter of greater uncertainty there than in any other part of the country I have seen."

The rainfall in the district under command of the proposed work varies from a maximum of 44 inches, which occurred in 1874, to a minimum of 8'09, the fall registered this year. The fall in 1871 was 11'49 inches. The current year's fall at the site of the reservoir has amounted to 5'58 inches only.

The work commands over 1,00,000 acres, of which it is calculated 29,700 acres will be irrigated. This area will be diffused throughout 58 villages of the Pandharpur and Sangola talukas.

	Rs.
* Works - - -	14,76,235
Establishment - -	2,95,250
Tools - - -	29,525
	Rs. 18,01,010

The net revenue is estimated at Rs. 1,19,400, and the total outlay being Rs. 18,01,010,* the net return will be 6'6 per cent.

The whole of the expenditure provided for is for earthwork.

Krishna Canal Extension.—This work is necessary to complete the scheme as originally designed. It will, if carried out, largely increase the area under command, and ensure a speedier return upon the outlay already incurred.

The return may be stated as follows:—

	Rs.	
† Works - - -	99,978	this will annually be irrigated during the rabi season, the whole of the perennial water being used on the upper portion of the canal, the revenue would be Rs. 9,388, or after deducting for maintenance, say, 5'25 per cent. on the total outlay on the extension, including establishment and tools.†
Establishment - -	19,296	
Tools - - -	2,026	
	Rs. 1,22,000	

The estimate for earthwork alone amounts to Rs. 32,462.

Chunkapur Tank.—This work is necessary to supplement the supply of water in the Girna River, on which there are a large number of bundaras irrigating a very considerable area, which would be greatly extended if the supply of water were increased and made reliable.

The project was called for by the Government of India, *vide* their No. 204 I., dated 5th April 1873. It will very shortly be submitted; and meanwhile has not been commenced.

Mukti Reservoir, Mhaswa Tank.—Sanctioned works in progress from current budget assignments.

Chowpalla Tank, Doodala Tank.—Small works for which detailed plans and estimates have been submitted to Government, and which only await funds.

No further explanation appears necessary.

Bhokur Tank.—Restoration of an old work for irrigating land in vicinity of Párola. Net revenue estimated at Rs. 4,218, or 5 per cent. on the gross outlay, Rs. 84,045.

The expenditure is almost entirely for earthwork.

Dhywell Tank.—In consequence of the falling off in the supply of water in the Pánjhra River, the patuuthal assessments on lands irrigated from the bundaras on the river was reduced at the last revision of the settlement from Rs. 32,000 to 23,000, or by Rs. 9,000. The tank is designed to repair this deficiency, and also to provide water for an extension of the irrigated area.

The total cost of the work is Rs. 2,90,000, on which a return of fully 5 per cent. may be anticipated.

The work is almost entirely earthwork.

Dewjipura Tank, Pimpalner.—This is a work of restoration similar to the Bhokur.

The revenue is estimated at Rs. 1,928, and would give a return of 5·7 per cent. on the gross outlay, Rs. 33,865, including establishment, &c.

The work as designed is of masonry; to undertake it as a famine work, earth can be substituted.

(Signed) C. J. MERRIMAN, Colonel, R.E.,
Acting Under Secretary to Government,
Public Works Department (Irrigation).

TABULAR STATEMENT of IRRIGATION WORKS under Construction or Authorised as Relief Works.

No.	Collectorate.	Name of Work.	Expenditure proposed or Allotment.	Amount of Estimate.	Outlay up to 31st March 1876.	Sanctioned by	Number and Date of Sanction.	REMARKS.
1	Poona.	Mattha Canal	Rs. 4,18,014	Rs. 46,57,644	Rs. 37,69,222	Government of India	No. 516—L, dated 11th August 1878, and reply No. 132 W. I. 382, dated 9th July 1876.	Out of the allotment of Rs. 4,18,014, the sum of Rs. 1,30,000 had been expended before relief works were commenced.
2		Supa Tank	5,118	5,118	—	Government of Bombay	No. 338—W. I. 763, dated 18th Nov. 1876	14,512 people are now employed on the earth-works east of Poona, and the muster is still daily increasing.
3		Seersophal Tank	2,59,085	2,59,085	—	—	—	Land compensation not yet settled, so not included in sanction.
4		Mullat Tank	54,570	54,570	—	—	—	Not yet commenced.
5		Patas Tank	83,165	83,165	—	—	—	—
6		Neera Canal— Purandhar, Bhimthari, and Indapur talukas.	—	16,00,000	—	—	—	—
7	Ahmadnagar.	Matoba Tank	1,61,143	1,61,143	—	Government of India	ment to this, Government No. 100 B. A. I., dated 24th June 1874, to the Government of India. It commands an area of 437 square miles in the Bhimthari and Indapur talukas, where the rainfall is more scant and uncertain than any other part of the Deccan. Besides the water for the cultivation of the land, the water is also used for the rearing of the best to a large number of villages, where at present it is very often difficult to obtain. The earthwork is now being lined out on the ground, and an expenditure of 6 lacs is proposed therein as a relief work.	This canal forms a distinct portion of the Neera project, referred to in accompani-
1		Bhatoti Tank	15,000	2,63,966	2,47,773	Government of India	No. 109—L, dated 27th March 1871.	It is proposed to extend the canal 9 miles, as originally designed, and to expend Rs. 20,000 on the earth works as relief.
2		Ojhar Canal	10,000	1,54,308	1,34,961	Government of Bombay	No. 97—A. I. 288, dated 5th May 1876.	Work nearly completed. The inhabitants of Sholapur are entirely dependent this year for their water supply from the canal led from this lake.
3		Ojhar Canal Extension	20,000	72,582	—	—	—	This work is similar in character to that of the Ekrak Tank, only on a smaller scale.
1	Sholapur.	Ekrak Tank— Ashapur Taluka	22,944	9,74,465	9,25,230	Government of India	No. 442—L, dated 11th October 1876	—
2		Mahvel Taluka	3,64,000	5,25,760	—	Government of Bombay	No. 6152, dated 27th October 1876	—
1		Yelwaji Tank	8,710	9,204	—	Do.	No. 8—W. I. 3, dated 3rd Jan. 1876.	—
2		Mavinkop Tank	2,383	9,990	607	Do.	No. 204—A. I. 638, dated 7th Oct. 1876.	—
3		Tilwaji Tank	5,355	5,355	—	Do.	Chief Engineer's appropriation, No. 119—G. 1876-77.	—
4		Madag Tank	10,000	1,72,836	1,20,524	Do.	No. 121—L. 2,283, dated 25th Sept. 1868.	—
5	Dhargwar.	Hivekerur Tank	9,753	11,675	—	Do.	No. 289—W. I. 666, dated 19th Oct. 1876.	1,437 people already employed on this work ; numbers since increased.
6		Dambal Tank	46,460	46,460	—	Do.	No. 237—W. I. 679, dated 21st Oct. 1876	The total estimate is Rs. 39,471, including 11,661 for establishment, and 1,166 for not yet commenced.
7		Medlen Tank	42,000	46,614	—	Do.	No. 6152, dated 27th Oct. 1876	Not yet commenced.
8		Doni Tank	65,428	89,114	2,898	Do.	No. 623 of 1875	Not commenced.
1	Karad.	Banknar Tank, Badami Taluka	1,75,000	1,75,351	—	Government of India	No. 7—L, dated 13th Jan. 1875.	3,481 people already employed on this work ; numbers since increased to 4,392.
2		Wayni Tank	9,000	2,37,728	2,30,220	Do.	No. 178—L, dated 8th April 1876	1,763 people already employed on this work, and number daily increasing. Num-
3		Verla Irrigation, Nehr Tank	1,70,000	3,47,262	1,01,579	Government of Bombay	No. 247—W. I. 672, dated 30th Dec. 1875.	The work has been lined out ready for commencement as soon as required in relief work. It is described in the accompaniment to this, Government No. 100, B. A. I., dated 23rd June 1874, to the Government of India.
4		Pringi Tank	1,70,000	1,89,636	—	Do.	No. 247—W. I. 672, dated 30th Dec. 1875.	The work has been lined out ready for relief work. It is proposed to extend the canal 12 miles to the length originally designed, and to expend Rs. 32,462 on the earthworks.
5		Mhaswar Tank, Man Taluka	4,00,000	14,76,235	—	Do.	No. 337—W. I. 761, dated 17th Nov. 1876.	Not commenced. <i>Vide</i> Govt. of India No. 204—L, dated 5th April 1873, also accom-
6		Krishna Canal Extension	50,000	96,973	—	Do.	No. 334—W. I. 750, dated 14th Nov. 1876.	paniment to this, Government No. 100 B. A. I. of 1874.
1	Nasik.	Chunkapur Tank	75,000	4,39,751	—	—	—	Not commenced.
1		Mookti Reservoir	16,000	2,64,566	2,44,000	Government of India	No. 59 and 60—L, dated 13th Jan. 1872.	Do.
2		Mhaswa Tank	50,000	1,00,803	38,723	Government of Bombay	No. 189—A. I. 1,588, dated 10th Sept. 1876	Do.
3		Chowpalla Tank	23,568	24,174	—	Do.	No. 189—A. I. 1,588, dated 10th Sept. 1876	Do.
4		Doodala Tank	11,280	11,280	—	Do.	No. 200—W. I. 392, dated 7th Sept. 1874	Do.
5		Bhokur Tank	56,945	56,945	—	—	—	Do.
6	Khandesh.	Dnyvel Tank	2,23,552	2,90,000	—	—	—	Do.
7		Dewljipura Tank	26,577	26,577	—	—	—	Do.

26th November 1876.

(Signed) C. J. M.

No. 521.

From the SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY, dated Calcutta, 15th December 1876. (See page 116, Part I.)

No. 5B.

Telegram, dated the 5th January 1877.

From VICEROY, DELHI CAMP, to SECRETARY OF STATE.

Your telegrams of 23rd and 29th December and 3rd instant. We have fully discussed with Governors of Madras and Bombay present position of affairs in respective Presidencies, and have decided on sending Sir Richard Temple to visit distressed tracts in both Presidencies, and confer with the two Governments. The situation is very grave, especially in Madras, where 13 districts out of 21, containing a population of 20 millions, are more or less affected. We consider the policy of making large purchases of grain adopted by Madras Government to be very erroneous, and calculated seriously to interfere with operations of trade, and so to intensify our difficulties a few months hence. We have instructed the Governor to abandon this policy, and shall take means to make publicly known our intention to leave trade unfettered. The number on relief works in Madras exceeds 840,000, in Bombay 250,000. We apprehend that in Madras admission to the works has not been sufficiently restricted, and that the actual pressure may, therefore, be less than the numbers would indicate. But on this point and on others Sir Richard Temple's inspection will enable us to form an opinion. The latest Madras estimate of expenditure and loss of revenue amounts to about five millions; Bombay estimates unaltered. Report of deaths at Sholapore proved to be unfounded. One or two isolated cases appear to have occurred in Madras Presidency. No efforts have been wanting on part of Local Governments to prevent mortality. Cholera had in some districts, especially Kurnool and Belgaum. Under explanations furnished by Governor of Bombay, we have withdrawn our prohibition of large works, on the understanding that any excess expenditure beyond requirements of the famine will be met from provincial resources under the new system about to be introduced. Please consider our letter to Bombay of 15th December as cancelled. It will be replaced by a modified letter, bearing same date, of which copy goes to you by this mail.

No. 5A.

From the SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Delhi Camp, the 5th January 1877.

I am directed to acknowledge the receipt of your letters quoted in the margin, and to communicate the following observations.

Ashtek tank, No. 270, dated 14th Dec. 1876.

Pinglee " " 301, " 22nd "

Matoba " " 302, " 23rd "

Irrigation statement, No. 309, dated 23rd Dec. 1876.

Mhaswar tank, No. 319, dated 27th Dec. 1876.

The Government of India, in October last, on receipt of information of the scarcity which had arisen in certain parts of three districts of the Bombay Presidency, and while considerable uncertainty prevailed as to the dimensions which the

question might eventually assume, deemed it essential that such relief works as were set on foot should be, as far as possible, of a local character, so arranged as to admit of the employment of the people in the immediate neighbourhood of their homes, and of such a nature as not to commit the Government to an expenditure in excess of the requirements of the case, and that the commencement of large projects should be avoided. The expediency of acting on this policy at the beginning of a scarcity was remarkably exemplified last year during the distress in North Behar, which proved to be far less serious than was at first expected. At the same time the Government of India fully recognised the possibility of its being necessary in due time to undertake larger projects, and in paragraph 11 of my letter No. 365, of October 25th, the policy laid down in the resolution of the Government of India of February 18th, 1875, a material feature of which is the organisation of large works, was indicated without reserve as that which would as a whole be adopted. My letter No. 521, dated the 15th December, contains further explanation of the views of the Government of India on this subject.

In the absence of a complete review and forecast of the condition of the distressed districts of the Bombay Presidency, such as that the submission of which has been requested in my letter No. 459, of November 30th, the President in Council considered it necessary (*vide* my letter No. 521, of December 15th) that the preference of small works to large ones should be maintained.

4. In consequence, however, of the representations contained in your letters quoted above, and of the information as to the condition of certain districts which has since been received in personal conference with his Excellency Sir Philip Wodehouse, his Excellency the Governor-General in Council directs me to state that the general objection to commencing large relief works, and the prohibition to commence irrigation works exceeding Rs. 30,000 estimate which was contained in my telegram of November 10th, may be considered as removed, subject of course to the condition which has already been laid down, that no works, great or small, should be undertaken unless in each case the Local Government is satisfied by evidence which it considers sufficient that delay in commencing work will involve serious danger to the lives of the people.

5. I am, however, to add that it must be distinctly understood that, in the event of his Excellency the Governor in Council directing that any great irrigation works, or other works of local or provincial importance, involving heavy future responsibilities for their completion and maintenance, should be undertaken, the principles which the Government of India proposes to carry out in regard to the enforcement of provincial responsibility for meeting the charges for Extraordinary Public Works shall be held applicable to their case, and that the four tanks named at the commencement of this letter will be similarly dealt with.

EXTRACT from the GAZETTE OF INDIA, EXTRAORDINARY, dated Camp Delhi, Friday, January 5, 1877.

DEPARTMENT OF REVENUE, AGRICULTURE, AND COMMERCE.

NOTIFICATION.

Camp Delhi, the 5th January 1877.

His Excellency the Governor-General in Council having had the advantage of personal conference with the Governors of Madras and Bombay regarding the condition of parts of their respective Presidencies which are at present afflicted by scarcity, deems it expedient that a high officer, fully acquainted with the views of the Government of India, should visit those Presidencies for the purpose of inspecting the distressed districts and communicating personally with the two Governments regarding the measures which are being carried out, and which will have to be carried out, for the relief of distress, and of offering for their consideration any suggestions he may deem suitable. His Excellency in Council has accordingly resolved to depute the Hon'ble Sir Richard Temple, Bart., K.C.S.I., Lieutenant-Governor of Bengal, on a special mission for the above purpose. Sir Richard Temple will report his proceedings from time to time to the Government of India in this Department.

Revenue, No. 18.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 8th February 1877.

Para. 1. The Despatch of your Excellency in Council, dated 5th January, No. 1 of 1877, on the subject of the scarcity in Western and Southern India, has been considered by me in Council.

2. I approve of and accord my sanction to the appointment temporarily of the Hon. Mr. Hope as an additional Secretary to the Government of India in the Department of Revenue, Agriculture, and Commerce.

3. I consider that your Lordship in Council has, under the explanations offered, exercised a just discretion in permitting the Government of Bombay to concentrate all its correspondence on the subject of the famine and relief operations in its Public Works Department.

4. I also approve of the proceedings of your Government in permitting the Government of Bombay to undertake the construction of large works, and I shall await the more complete explanation, which you doubtless will furnish in due course, of the arrangements under which you propose to require that any excess expenditure beyond the actual requirements of the scarcity shall be met from provincial resources.

5. I have already expressed by telegraph my approval of the special mission of Sir Richard Temple.

I have the honour to be, &c.,
(Signed) SALISBURY.

No. 2 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 12th January 1877.

In our Despatch of the 5th instant, and the telegram of the same date, we reported that, after personal conference with the Governors of Madras and Bombay, we deemed it necessary, in view of the rapidly increasing numbers on the relief works, the doubtful expediency of the policy of importing grain favoured

by the Madras Government, and the heavy estimates of relief expenditure received, to depute Sir Richard Temple on a special mission to the distressed districts. Sir Richard Temple started from Delhi for Bombay on the following day, accompanied by Mr. C. E. Bernard as Secretary.

2. Our weekly Despatches, together with those forwarded by the Governments of Bombay and Madras, will have conveyed to your Lordship in detail all the information regarding the famine which is at present in our possession. This information is not, in some respects, as complete as could be desired, and will not be materially supplemented until the receipt of the detailed accounts of the condition of the distressed districts, which were called for in our letter of the 30th November last, and which will not be due until the 15th instant. These accounts are to be distinct for each taluka (or subdivision of a district), showing fully its condition and prospects, the measures undertaken and required, and the probable number of persons for whom relief must be provided at successive periods up to the next year's harvest. In the meantime we may submit the following brief review.

2. About the middle of August the scantiness of the rainfall in certain Collectorates of the Deccan and Southern Mahratta country excited some apprehension, and early in September the necessity for relief in portions of the Poona district, together with the existence of distress in the adjacent districts of Ahmednagar and Sholapur, were brought to the notice of the Government of India; but it was not until the latter part of October that the hopes which had been entertained of a fall of rain sufficient to save portions of the withering crops and to enable the rabi sowings to be begun were dissipated, and that serious and extended distress was recognised as inevitable.

4. It was soon apparent that the area which was to a greater or less degree

DISTRICTS.	Area.	Population.	Land Revenue realisable by Government in 1874-75.	Excise Revenue.
	Sq. M.		Rs.	Rs.
Khandesh	10,162	1,028,642	30,21,890	2,18,605
Nasik	8,140	734,386	11,67,169	65,824
Ahmednagar	6,647	773,988	13,30,602	22,745
Poona	5,099	907,235	12,83,771	1,59,962
Sholapur	3,925	662,986	10,44,010	46,801
Kaladgi	5,695	816,037	12,18,256	1,32,643
Satara	5,378	1,116,050	16,53,136	27,320
Belgaum	4,591	938,750	12,59,977	1,27,455
Dharwar	4,564	988,037	19,60,635	2,20,366
Total	54,208	7,966,061	1,39,39,446	10,16,824

affected comprised Khandeish and eight districts of the Bombay Deccan, as specified in the margin, with a population of eight millions, and a revenue, from land and excise, of a million and a half. Moreover, the affected districts enclosed Native States, under our political control and in some instances under our manage-

ment, containing a population of nearly two millions more.

5. The failure of crops has of course varied greatly throughout this large tract, and we have not as yet any precise statistics on the subject; but according to returns received in November, the failure was almost entire in 21 out of 91 talukas (or subdivisions of districts), it amounted to half but less than the whole in 59 more, and was under half in 11 only. Taking the districts by name, in Sholapur the failure was complete; in Kaladgi very nearly so; Dharwar came next, and not far behind these; then Belgaum and Poona. Ahmednagar had talukas both well and ill off. In Khandeish and Nasik the loss was believed to be about one half, and Satara on the whole had suffered least of all. These estimates were extremely rough, and have in some instances been since modified for the better. Regarding the Native States we have no detailed information, but they are believed to be in much the same condition as the adjacent British districts.

6. Recently we received accounts of distress in certain parts of the Colaba and Ratnagiri districts, which are on the coast, below the Ghâts, but we have every hope that it will be confined in area and moderate in severity.

7. The relief which has as yet been afforded has been principally in the form of minor works, intended not to draw large bodies of people away from their homes, as we consider such to be the best form of relief at the commencement of a scarcity, before its limits have been fully ascertained. In October last we informed the Government of Bombay that we did not consider that sufficient grounds then existed to justify the commencement of the Dhond and Manmar Railway, which they desired, or of other works involving heavy expenditure, after the necessity for relief had ceased. More recently, however, the ascertained importance of the scarcity, together with the representations of the Bombay

Government that minor works were in some districts becoming exhausted, have induced us to approve of the commencement of large products, on the understanding that any excess of expenditure over relief requirements will be borne by provincial funds. As regards the grain trade, we have supported the determination of the Bombay Government to leave the trade entirely free, the result of which is that supplies have poured into the distressed districts from all quarters, and are offered to an extent in excess of the carrying powers of the railways, while prices have been considerably lowered in consequence. By a fortunate coincidence, the harvests in other parts of India, except Madras, have been excellent.

8. The Bombay Government have placed a sum of Rs. 25,000 at the disposal of each of the Collectors of the most distressed districts for the purpose of charitable relief to the aged, infirm, and others unable to work; but Government assistance of this kind has not as yet been much needed, partly in consequence of the very liberal efforts which have been made by private individuals and public subscription.

9. The want of rain having very materially affected the sources of water supply, the condition of the cattle, which are very numerous, nearly equalling the population in the affected districts, caused from an early period much anxiety, and many thousand head are reported to have perished. The Government forest reserves have, however, been thrown open for grazing, under as few restrictions as possible; arrangements have been made for sending the cattle to them from all quarters, under certificates from the several mamlutdars, and the privilege has been availed of to an extent which affords reason to hope that a large proportion of the more valuable cattle at least will be saved.

10. According to the latest returns which are available, the number of persons on the relief works was about 287,000, and the famine expenditure, exclusive of about six lakhs borne by provincial, local, and municipal funds, amounted to Rs. 12,15,359. The total loss of revenue and relief expenditure is estimated by the Local Government at

two crores and six lakhs of rupees.

11. The south-west monsoon having been but scanty in the Ceded Districts of the Madras Presidency (Bellary and Cuddapa) and in Kurnool, distress appeared there in August last, and a few relief works were set on foot, as also the distribution of food to the aged and others unable to work. To this failure of rain was gradually added that of the north-east monsoon also, which, it had been hoped, might have saved a portion of the fast withering crops, and facilitated larger sowings than usual of the later crops usually produced under its influence. The condition of these three districts, which had already, it may be remarked, suffered from two previous bad seasons, thus became, by the end of October, extremely critical.

12. The failure of the north-east monsoon above alluded to has also extended to a large portion of the rest of the Madras Presidency. In some quarters the failure has been complete, in others only partial, and although rain has very lately fallen to a limited extent in some of the southern districts, severe distress has overtaken large masses of the population.

13. Two tracts are thus affected. The first, consisting of the Ceded Districts and Kurnool, is compact and well defined, and the distress is far more severe in it than elsewhere; the second comprises nine districts, within which the distress depends upon the varying local failures of the north-east monsoon, regarding which no details are available sufficient to enable the population actually affected to be stated. The general statistics of the districts are given in the margin. Only eight districts in the whole Madras Presidency are

	1876-77.	1877-78.	Total.
	Lakhs	Lakhs.	Lakhs.
Loss of revenue	- 46	20	66
Relief expenditure	- 54	86	140
Total	- 100	106	206

DISTRICTS.	Area in Square Miles.	Population.	Land Revenue.	Excise on Spirits and Drugs.
			Rs.	Rs.
Bellary - -	11,007	1,668,006	23,43,386	6,89,841
Kurnool - -	7,358	959,640	14,27,653	3,31,272
Cuddapah - -	8,387	1,351,194	17,71,726	2,07,108
Total first tract -	26,752	3,978,840	55,42,765	12,28,221
Kistna - -	8,036	1,452,374	38,16,936	1,64,585
Nellore - -	8,462	1,376,811	24,73,598	89,773
Chingleput - -	2,753	938,184	16,32,688	1,57,129
North Arcot - -	7,139	2,015,278	26,91,778	3,15,342
Salem - -	7,483	1,966,995	21,83,827	3,06,113
Madura - -	9,502	2,266,615	19,24,196	1,37,974
Coimbatore - -	7,432	1,763,274	25,01,180	2,50,718
Trichinopoly - -	3,515	1,200,408	15,54,787	1,49,363
Tanjore - -	8,654	1,973,731	39,59,490	4,94,555
Total second tract	57,976	14,953,670	2,17,03,480	20,95,582
Grand total -	84,708	18,932,510	2,72,46,245	33,23,803

thus as yet free from actual famine; but even among these, a certain amount of distress, accompanied by high prices, had appeared in South Arcot, Tinnevely, and Malabar, and causes apprehension regarding the future.

Ganjam.	Tinnevely.
Vizagapatam.	Nilgiris.
Godavery.	Malabar.
South Arcot.	South Canara.

14. The distress in the Ceded Districts and Kurnool far exceeds, as has been said above, that elsewhere. Taking the remaining districts in rough order, Nellore and Chingleput appear to come first, North Arcot and Salem next, followed by Coimbatore and Madura, while Tanjore, Trichinopoly, and Kistna are comparatively well off.

15. Speaking in general terms, the Madras Government has followed the policy of previous famines in that Presidency by commencing with relief works at the head quarters of taluks and districts, and giving charitable relief freely, and then extending its operations to minor works in the villages. At the end of October that Government also requested permission to commence the earthwork of the railway from Bellary to Guduk in the Dhârwar district of the Bombay Presidency, but we withheld our sanction on the same grounds as those which led us to a similar course in the case of the proposed Dhond and Manmar line. The Madras Government then commenced the remaining 85 miles of the east coast canal, the conversion of the Arcunum-Conjeveram Railway to the metre gauge, and a canal in the town of Madras.

16. The Madras Government likewise purchased, at the beginning of November, 30,000 tons of grain, which it would appear was intended for use either in payment of wages on relief works, or for sale to the general public, as circumstances might be. We lost no time in intimating our disapproval of this transaction, which was effected without previous communication with the Government of India, and have since negatived two proposals for further purchases, and emphatically expressed our desire that no interference with the operations of trade should be attempted.

17. The number of persons on the relief works, according to the latest accounts, was 1,125,117, to which must be added 119,363 persons receiving charitable relief almost entirely at the expense of the State. The relief expenditure already sanctioned by the Madras Government up to the 30th ultimo was Rs. 55,69,059. The Local Government, in their more recent reports, estimate the total relief expenditure which will be required up to the end of September 1877 at Rs. 3,41,05,875, and the loss of revenue at Rs. 1,17,00,000, making, with extra establishments, a probable total of above four and a half millions sterling.

18. The Province of Mysore, like portions of Madras, is undergoing a second year of scarcity, and the failure of both monsoons during the current year has affected the whole Province except a few taluks to the westward, the crops dependent on irrigation from tanks suffering almost as much as the others. The absence of water has also destroyed the pasturage for cattle, the mortality of which, in one district alone, in one month, has been estimated at 11,400 head. The area of Mysore is 27,346 square miles, the population 5,055,000, and the land, forest, and excise revenue Rs. 70,39,819. Relief works were started at an early stage, and in addition to extensive transfers in the budget of the year, special grants, amounting to three lakhs of rupees, have at various times been sanctioned. Expenditure in Mysore does not, of course, fall on imperial revenues. The Chief Commissioner has carefully abstained from all interference with private trade in grain.

In the adjoining district of Coorg, which is British territory, no failure of crops has as yet occurred sufficient to warrant the commencement of relief operations.

19. The western and southern portions of the territories of His Highness the Nizam have not escaped the effects of the deficient monsoon. In October last we were urged through the Resident to reduce the freight of grain carried by railway to Hyderabad districts, but did not sanction the measure, as it was deemed by both the Bombay and Madras Governments to be unnecessary. The Nizam's Government has since started relief works, which suffice, as far as we are aware, to meet the exigencies of the case.

20. It will have been seen from the above brief sketch that the entire area of British territory affected by scarcity is 138,911 square miles, the population 26,898,571, and the realisable annual revenue Rs. 4,54,26,315. The estimated loss of revenue is 183 lakhs, and the estimated relief charges 481 lakhs, or a total, including establishment and various unestimated charges, of probably not less than six and a half millions sterling. The number of persons in receipt of relief is 1,531,480.

21. The prospect is thus serious in the extreme. While the necessity of preventing, as far as practicable, death by starvation is paramount, the financial embarrassment which must in any case arise will be most difficult to overcome, and any departure from the most rigid economy, or from the principles in dealing with famine which experience has confirmed as sound, may aggravate it to a degree which cannot be estimated. These considerations, together with doubts which we entertained regarding the policy of the Madras Government respecting the purchase of grain and the sufficiency of existing restrictions on employment on the works in both Madras and Bombay, have, as already stated, induced us, after personal conference at Delhi with the Governors of the two Presidencies, to depute Sir Richard Temple on a special mission to visit the distressed districts, confer with the Local Governments, and offer to them such suggestions as he may deem the occasion demands. We have every hope that, under his advice, and by the light of the complete review and forecast above referred to as shortly to be received, the operations may be confined within limits commensurate with the occasion, and that both loss of life and an extravagant outlay may be avoided.

We have the honour to be, &c.

(Signed) H. W. NORMAN, &c.

Revenue, No. 20.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 15th February 1877.

Para. 1. I have to acknowledge the receipt of the Despatch of your Excellency's Government, dated 12th January, No. 2 of 1877, relative to the scarcity in Southern and Western India.

2. This Despatch gives a comprehensive view of the state of affairs in the distressed districts, and shows that the prospects are extremely serious. On many of the points noticed more recent and complete intelligence has been supplied by your Lordship in Council through the telegraph. On other matters I have already expressed my views, and I have, therefore, no special remark to offer on the present communication.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 4 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 19th January 1877.

Your Lordship will have become acquainted, from our telegram of the 16th instant, with the substance of the instructions which we caused on that date to be addressed to Sir Richard Temple with reference to his mission to the Bombay and Madras Presidencies. We now enclose a copy of these instructions, which we trust will meet with your Lordship's approval.

2. Considering it to be very important that the public, and especially the trade, should be furnished with definite information regarding the extent of the famine and the policy by which the Government of India will be guided in dealing with it, we deemed it advisable to publish these instructions in the "Gazette of India," together with our Despatch to your Lordship's address of the 12th instant.

3. Sir Richard Temple has visited the Bombay Presidency, and has reached Bellary in the Presidency of Madras. We are glad to find that he is of opinion

that in Bombay the local officers are fully and successfully grappling with the distress around them, and that the substantial safety of the people has been secured, while at the same time there is room for the introduction of some economy in expense. We have received four Minutes from him communicating his impressions on the condition and prospects of the Bombay Presidency. As these Minutes, copies of which are enclosed, have been communicated by him to the Local Government direct, we have thought it best to leave that Government time to consider them, and to take such action on them as it may deem proper before adding any opinion of our own, excepting in two particulars. We have, in deference to Sir Richard Temple's reiterated representations, requested the Bombay Government to abstain for the present from making, or positively promising, remissions of land revenue. We have also placed at Sir Richard Temple's disposal, in compliance with his request, an officer of the Railway Branch of the Public Works Department of the Government of India. The Government of India in the Railway Department have for some time past been adopting all means in their power to increase the rolling stock, and promote its due distribution among the various lines in accordance with their several exigencies, and we have every hope that ere long no difficulties will remain except such as are inherent in the nature of the case.

4. Regarding the Presidency of Madras, we have this day received a telegram from Sir Richard Temple stating that the number of relief labourers is too great to be controlled, and the cost of the operations excessive, but that he is devising suggestions for submission to the Local Government.

5. With reference to your Lordship's desire expressed in a telegram of the 29th ultimo, that special famine narratives should be kept in both Presidencies and forwarded to you periodically, we beg leave to state that we some time ago desired the Government of Madras to prepare a weekly report, similar to that already issued by the Government of Bombay, and have again addressed them by telegraph on the subject. The Bombay report is forwarded to your Lordship weekly by the Local Government, and we presume furnishes the information you require. The substance of these reports, and of such other information as we may receive, will be embodied in a weekly telegram to your address.

6. We regret to state that we have not received from either Bombay, Madras, or Mysore any of the reports of talukas which were due on the 15th instant. We learn by telegraph that a few of them have been dispatched from Bombay and Mysore, and we have telegraphed to expedite the remainder.

We have the honour to be, &c.

(Signed) LYTTON, &c.

No. 62.

Telegram, dated 16th January 1877.

From VICEROY, Calcutta, to SECRETARY OF STATE.

Instructions to Temple issued and published to-day.

Para. 2 explains that while Government will spare no effort consistent with resources of State for prevention of deaths from famine and of extreme suffering, it is essential in present state of finances to practise severe economy. According to estimates, relief of existing scarcity in Madras and Bombay, including loss of revenue, will reach six and a half millions sterling. Considering that the revenues are barely sufficient to meet the ordinary expenditure, and heavy additional taxation both financially and politically impossible, the task of dealing with famines, and saving life irrespective of cost, is beyond the power of Government. Relief measures on that principle would involve debt and taxation more fatal to the country than famine itself. Government, however, believes that efficient measures are possible without disastrous expenditure.

Para. 3 enjoins attention to extent and principles of relief. Whilst not questioning the reality of the calamity, reminds Sir Richard Temple that the mere collection of enormous numbers is no proof of serious suffering, and that careful inquiry is necessary. If relief works be carried out on wrong principles; if labour be not strictly exacted; if proper supervision be wanting, and people obtain wages for inadequate work, the numbers in receipt of relief become overwhelming, and population becomes demoralised.

Paras. 4 to 7 explain general principles for relief operations as established by past experience. The small local relief works, which, if well supervised and selected, may be useful as a purely tentative measure before the probable character and extent of a threatened scarcity can be ascertained, become insufficient and unsuitable as soon as it is clear that there will be serious and widespread distress. Large works should then be undertaken where large gangs of labourers can be employed with adequate labour tests. These works must, whenever possible, be of a permanently useful and remunerative character, and in some cases it is easier and wiser to carry

people to works than food to people. Those unfit for hard labour can be employed in poor-houses or on easy work near their homes.

Paras. 8 to 10 state that it is very important to ascertain how far private trade, if left quite unfettered, may be counted on to supply wants of Madras; affirm non-interference with private trade as leading principle of Government action; approve payment of labourers on relief works in money as long as possible; deprecate attempts of local officers to reduce price of food, as high prices curtail consumption and encourage importation; public purchase of grain may be unobjectionable if made on commissariat principles from nearest depôts of the trade for supply of relief works, and possibly for certain localities remote from railroads.

Para. 11 directs inquiry into sufficiency of arrangements for transport and landing of grain.

Para. 12 communicates general principles in regard to manner of meeting famine charges; states opinion that the main portion of the charges incurred on public works, which permanently protect people against famine and add greatly to their wealth, should be borne by the people protected and benefited rather than by the general taxpayer, and that every Province should, as far as practicable, be held responsible for meeting cost of its own famines; quotes paragraphs 11 and 12 from Secretary of State's Despatch No. 59 (Revenue), of 25th November 1875, and affirms that the general principles thus laid down are under consideration, and must be borne in mind with reference to present famine.

No. 45.

From the SECRETARY TO THE GOVERNMENT OF INDIA to the HON. SIR RICHARD TEMPLE, Bart., K.C.S.I., Lieutenant-Governor of Bengal (on a Special Mission).

Calcutta, the 16th January 1877.

His Excellency the Governor-General in Council having been pleased to depute you on a special mission for the purpose of inspecting the districts suffering from scarcity in the Presidencies of Madras and Bombay, and conferring personally with the Governments of those Presidencies regarding the measures which are being carried out, and which will have to be carried out, for the relief of distress, I am directed to communicate to you the following observations, indicating the general views of the Government of India on some of the more important questions with which you will have to deal.

2. I am to observe in the first place, that while it is the desire of the Government of India that every effort should be made, so far as the resources of the State admit, for the prevention of deaths from famine, it is essential in the present state of the finances that the most severe economy should be practised. The distress is so widespread, extending over 21 districts in the two Presidencies, and more or less affecting a population of 27,000,000, and threatens to be protracted for so many months, that the utmost care is necessary to restrict the expenditure to the absolute requirements of the case. Even, however, if financial considerations were less overpoweringly strong, it would still be true that a Government has no better right in times of scarcity than in other times to attempt the task of preventing all suffering, and of giving general relief to the poorer classes of the community. False and mischievous ideas on this subject have become so prevalent, that the Government runs some risk of being charged with inhumanity, when it declares that these are the principles by which it intends to be guided. The Governor-General in Council will not be deterred by such considerations as these from a course of action which he knows to be right. Everyone admits the evils of indiscriminate private charity, but the indiscriminate charity of a Government is far worse. The Government of India is resolved to spare no efforts which may be necessary and practicable, with reference to the means at its disposal, to save the population of the distressed districts from starvation, or from an extremity of suffering dangerous to life; but it will not sanction a course of action which must tend to demoralise the people themselves, who are passing through a time of temporary trial, and inevitably lead to the imposition of heavy and permanent burdens on the industry of the country. Even for an object of such paramount importance as the preservation of life, it is obvious that there are limits which are imposed upon us by the facts with which we have to deal. If the estimates of the Local Governments are to be accepted, the relief of the existing scarcity in the Madras and Bombay Presidencies, including loss of revenue, will not cost less than six and a half millions sterling. Considering that the revenues are barely sufficient to meet the ordinary expenditure of the Empire, and that heavy additional taxation is both financially and politically impracticable, we must plainly admit that the task of saving life, irrespective of the cost, is one which it is beyond our power to undertake. The simple fact is this, that the recurrence of a few famines, such as that from which the country is now suffering, or such as that which occurred three years ago in Behar, would, if measures of relief were carried on upon that principle, go far to render the future Government of India impossible. The embarrassment of debt, and the weight of taxation, consequent on the expenditure thereby involved, would soon become more fatal to the country than famine itself. Happily, however, the Government are not placed in any such dilemma. They believe that from the history of past famines, rules of action may be learnt which will enable them in the future to provide efficient assistance for the suffering people without incurring disastrous expenditure.

3. One of the first points which should engage your attention is the extent to which relief is given, and the principles on which it is afforded. The numbers on the relief works are so great,

Madras—		
On relief works	-	1,125,117
Fed gratuitously	-	119,363
Bombay—		
On relief works	-	1,244,480
	-	287,000
		1,531,480

that the Government of India see reason to apprehend that many persons must be employed to whom such relief is not absolutely essential, and who without it would have been able to maintain themselves, at all events for some time to come. The Governor-General in Council does not for a moment doubt the reality of the calamity that has fallen upon the country, a calamity which unhappily

threatens to become ere long still more disastrous. But it is necessary to remember that the mere collection of enormous numbers of people on relief works in seasons of scarcity is in itself no sufficient proof of serious actual suffering. If relief works are carried on upon wrong principles; if labour is not strictly exacted from all who are physically able to work; if proper supervision is wanting, and people find that they can obtain, almost for the asking, and in return for next to no work at all, wages in money or in grain, there is hardly any limit to the numbers who even in prosperous times may be attracted to them. "When," as Sir George Campbell has observed, "a lax system is established, and everyone down to the merest child gets paid for the merest pretence of work, with probably a good many abuses besides, the thing becomes too attractive, the whole country tends to come on the works, the numbers threaten to be absolutely overwhelming. The people, too, become demoralised; works, where real work is exacted, are deserted, and many evils follow." A good illustration of this may be found in the official narrative of the scarcity of 1873-74 in the North-western Provinces. "In a season of considerable pressure, but not of absolute famine, the relief works in Gorakhpur and Basti were for some weeks daily thronged by more than 200,000 men, women, and children, who found an attraction in the light work, in the liberty of going at night to their houses after attending a sort of vast picnic during the day, and in the wages earned at a time when ordinarily they had no employment in the fields, and had to live on their harvest savings. But when the wages were cut down to a mere subsistence allowance, when a full day's labour was insisted on, and when the liberty of living at their homes was threatened, these immense crowds melted away as rapidly as they had collected, and it was found that there was hardly anyone who really stood in need of relief." The Governor-General in Council does not assert that a similar condition of things now exists in any of the districts of Madras or Bombay, but the matter is one which requires the most careful observation.

4. The general principles on which operations for the relief of famine in India should be conducted, have been established beyond question by past experience. When, as may easily happen, at the commencement of a period of distress, it is a matter of doubt whether serious scarcity is actually threatening a tract of country, it may be desirable, in the first instance, to open, as a tentative measure, small and well supervised local works. The Government may thus avoid the risk of finding itself committed to serious expenditure on large public works which there was no immediate necessity for undertaking. It was for reasons of this kind that the Government of India, at the commencement of the present scarcity, and while still in doubt regarding the extent to which relief operations might ultimately become necessary, thought it right, both in the Madras and Bombay Presidencies, to encourage, in the first instance, the organization of works of a local character in preference to those of greater magnitude. But when it becomes no longer a matter of doubt that serious scarcity is impending, and that relief will have to be provided upon an extensive scale, the great difficulty of insuring adequate supervision for numerous scattered works renders it necessary to resort to large works on which large gangs of labourers can be employed, and on which adequate labour tests can be exacted. As soon, therefore, as it is clear that the Government will have to undertake serious measures for the relief of scarcity, no time should be lost in giving to the people, to the greatest extent practicable, the means of employment on large public works. Such works supply the means of subsistence to the able-bodied poor; they prevent, instead of merely relieving, distress.

In choosing such works it is obviously of great importance that those selected shall be of a permanently useful and remunerative character; for it is in the last degree unsatisfactory that when the necessity for employing great multitudes of people is forced upon the Government, their labour, which might have been devoted to works which would have conferred lasting benefit on the country, should be thrown away. The works should also be such as are calculated to absorb in comparison with their entire cost a sufficient proportion of labour during the anticipated period of famine. They need not always be in the distressed districts, or near the homes of the people who require relief. When railways or other thoroughly good means of communication are available, it may sometimes be easier and wiser to carry the people to the works and to their food, than to carry the food to the people. Temporary migration from their homes has always, in times of scarcity, been the natural and one of the best remedies to which the people have had recourse, and the organization of public works in places where food is plentiful, and to which access is not difficult from the distressed districts, may in some cases be more useful than works at places where the supply of food is already insufficient. No apprehension need be felt that the people will not return to their homes when the period of distress has passed away. It will be for you to consider how far these principles are being acted on, and if necessary to recommend to the Local Governments the discontinuance of any works, or system of works, which, in your opinion, cannot be usefully proceeded with.

6. When, by undertaking large public works, employment has been provided for the able-bodied poor, it may still be necessary, even before the pressure of famine has become extreme, to afford means of support to persons who are physically unable to give a full amount of labour in return for the wages they receive. These must either be employed in poorhouses or on roads and other easy work, every effort being made to prevent relief being given to anyone who does not really require it. It has often been found a most useful test of actual distress to insist, when charitable relief is necessary, that it shall ordinarily be given in the shape of cooked food.

7. It should be added that when distress becomes extreme, and a state of absolute famine has been reached, that large public works may become insufficient to afford relief to the numbers of people in need of it. At such a time the Government may be driven to set up relief works near the homes of the people on a scale inconsistent with careful supervision or searching tests. Such measures as may be practicable must then be adopted for reducing to a minimum the inevitable evils that will then arise. The Governor-General in Council leaves it to you to communicate to the Local Governments the results of your own experience in regard to this very difficult part of the question,

8. A very satisfactory feature in the course taken by the Bombay Government in dealing with the present famine is their adherence to the principle of non-interference with private trade, which up to the present time they have acted on with marked success. In Madras a different policy has been observed. At an early stage in the scarcity, the Government of Madras contracted through a local firm for a supply of 30,000 tons of grain, to be used as a reserve to meet deficiencies in the local markets. Applications for authority to make further similar purchases have since been received, but have not been sanctioned, the Government of India being of opinion that such purchases are seriously calculated to discourage the operations of private trade, and to increase, instead of diminishing, the difficulty of procuring the supplies which will be necessary to augment the deficient food supply of the Presidency. Inquiry has been made whether this objection would apply to the Government advertising for tenders for the supply and delivery of grain in the immediate neighbourhood of certain works on which gangs of labourers are employed at a distance from all local markets. The answer must of course be in the negative. There is no more objection to such purchases than there is to the Government making purchases through the Commissariat for the troops. The objection is to the Government entering into transactions which may excite apprehensions on the part of traders, that the Government are about to take their place, and so to disarrange the bases on which they found their calculations of profit. This objection is especially applicable to purchases of a secret character. In such cases the fact that the Government are in the market is almost certain to become known, and thereupon doubts are raised as to the nature and extent of the transaction, and private trade is paralysed. In regard not only to this but all other matters connected with the management of famines, the general rule should be that the operations of the Government, and the reasons on which those operations are based, shall receive full and complete explanation and publicity.

9. One of your most important duties in connexion with the present state of things in the Madras Presidency will be to ascertain how far private trade, if left perfectly unfettered, may be counted on to supply the wants of that Presidency. As at present informed, the Governor-General in Council entertains a strong opinion that the supply of that Presidency from foreign sources, such as Burma, Bengal, &c., should be left altogether to private trade, and that the intention of the Government so to act should be widely made known, together with full and frequent information regarding the prices of food grains and other articles of consumption in the distressed and other districts. It is possible, however, that in certain localities at a distance from the lines of railway and from large markets, it may be requisite for the Government to intervene by making purchases at the nearest local depôt to which the trade will convey the grain. In such cases, where the local trade, from whatever cause, is not active, the direct intervention of the Government may probably tend rather to facilitate than to discourage the importation of grain, by affording confidence to the trade that importations will find a certain purchaser. Finally, it must not be overlooked that there is a great advantage in paying labourers on relief works in money, wherever and so long as this mode of relief is practicable.

10. The Governor-General in Council would have hoped that it was hardly necessary to impress upon local officers the importance of exercising no interference of any kind with the object of reducing the price of food; but cases have come to his notice which show that a warning on this point may not be uncalled for. It is obvious that, especially in a time of scarcity, nothing could be more mischievous than such interference, and that high prices, by reducing consumption and encouraging the importation of fresh supplies of food, are not only necessary but highly beneficial.

11. Another matter of importance is the question of transport of grain, both on the railways and to parts of the country with which the existing means of communication are insufficient, as well as of providing additional facilities for landing it at the ports. These matters, the Government of India have reason to believe, have not been at all overlooked by the Local Governments, but it is probable that your experience will enable you to offer valuable suggestions on the subject.

12. There is one other subject to which the Governor-General in Council thinks it desirable to refer, not because it is one with which you will have at present in any way to deal, but because he wishes to place you generally in possession of the views which are held by the Government of India on all the more serious questions connected with the treatment of Indian famines.

You will observe that his Excellency in Council, in my letter to the Government of Bombay, No. 5A., dated the 5th instant, has laid down the principle that if any great irrigation works or other works of local and provincial importance, involving heavy future responsibilities for their completion and maintenance, be undertaken, certain rules will be held applicable, which will hereafter be prescribed, in regard to the enforcement of provincial responsibility for meeting the charges for extraordinary public works. This is not a convenient time for entering into a full discussion of these questions, but his Excellency in Council desires to take the present opportunity of declaring his opinion, not only that the main portion of the charges incurred on public works which protect the people against famine, and which add greatly to their wealth, should be borne by the people protected and benefited, and not by the general taxpayer, but also that every Province ought, so far as may be practicable, to be held responsible for meeting the cost of the famines from which it may suffer. The Governor-General in Council believes that until these principles are enforced, the only real security for wise and economical management will be wanting. When Local Governments and local officers understand that the inevitable consequence of unnecessary expenditure will be the imposition of heavy burdens upon their own people, and not upon those of other Provinces, a powerful and most useful check upon extravagance will have been established. On this subject the opinions of Her Majesty's Secretary of State for India have been expressed in a passage which may properly be quoted here:—*

"There is a further point, though not one to fall within the scope of such an inquiry as that which you have directed to be made, which should, in my opinion, be carefully considered

* Despatch from Secretary of State to Government of India, No. 59 (Revenue) dated 25th November 1875.

by your Excellency's Government before the questions that arise in connexion with the occurrences of 1873-74 can be regarded as fairly met. I refer to the proper incidence of the charges that are necessarily incurred in providing for the requirements of the population of a district in a period of drought. However plain may be the primary obligation on the State to do all that is requisite and possible towards preserving the lives of the people under such circumstances, it would be most unwise to overlook the great danger of tacitly accepting, if not the doctrine, at least the practice, of making the general revenues bear the whole burden of meeting all local difficulties or of relieving all local distress, and of supplying the needful funds by borrowing in a shape that establishes a permanent charge on the general revenues for all future time. In Bengal, where (as the Lieutenant-Governor observes in reference to the objections of the Government in relation to emigration) the beneficial interest of the Government in the land is limited by the permanent settlement, these considerations are of special and more pressing application.

"The question which is thus raised, of how to make local resources aid in meeting local wants, is no doubt one of great difficulty and complexity, particularly in a country like India. But the difficulty of providing any satisfactory solution of it should not be allowed to obscure the perception of its vital importance to the future well-being of the country, as well as of the troubles to the Government and the demoralisation of the people which must necessarily result from postponing too long the introduction of some system under which shall be suitably recognised the undoubted responsibility which rests on the people themselves to provide for their own support and well-being. The duty of the State does not extend further than to see that the needful means are supplied for giving effect to this principle, and for distributing the local burdens arising from its practical application in the manner which shall be most equitable and least onerous to those who have to bear them."

The manner in which these principles shall be carried into practical effect is under the consideration of the Government. It is sufficient at present to say that the Governor-General in Council is of opinion that they ought to be kept in view in connexion with the present scarcity, and that a considerable portion, if not the whole, of the permanent charges which relief operations now in progress may entail ought to be borne by the Presidencies in which the expenditure is being incurred.

13. The above are the only observations that the Government of India deem it at present necessary to place on record in connexion with the onerous and delicate duty which you have undertaken; and they have been made, not so much the view of advising you on a subject which you have probably studied more thoroughly than any other public officer in India, as for the purpose of furnishing you with a statement of the views of the Government of India, to which you can refer in your communications with the Local Governments. I am directed, in conclusion, to convey to you the cordial thanks of the Governor-General in Council for the promptitude with which on this, as on other occasions, you have responded to the call made upon you.

I.—MINUTE by SIR RICHARD TEMPLE, dated Calcutta, 9th January 1877.

I have had the advantage of meeting some of the civil officers of Khandesh and Násik, and of conferring with them on the condition and prospects of their districts. The officers who, under the orders of his Excellency the Governor of Bombay, met me, were Mr. Erskine, the Collector of Násik, Major Probyn, the District Superintendent of Police and Bheel Agent in Khandesh, and Mr. Pollen, Assistant Collector in charge of the more distressed parts of the Khandesh district. Mr. Probert, the Collector of Khandesh, sent me a short written account of the prospects of his district, being prevented by indisposition from meeting me in person. As I am pressing forward towards more distressed tracts in the south, my inquiries were only of a summary and cursory character. Still I deem it right to record, for the information of the Government of India, such information as I have gathered, and such general impressions as I have subject to future correction received.

2. *Khandesh*.—First, with reference to the Khandesh district. This district is divided into two parts by the Agra road, which passes through Dhoolia, the head quarters of the Collector. In the part of Khandesh westward of the Agra road, the autumn (kharif) harvest has yielded a

* NOTE A.

I observe that in the Honourable T. C. Hope's letter of the 30th November, the average yield is taken at 12 annas, but the figures given me by the Collectors were on the assumption that 16 annas represented an ordinary good yield.

yielded on the average a six-anna (or less than half the ordinary) crop; but in this part of the district the out-turn has varied much, one village having a fair harvest and another yielding hardly any crop. The yield of the coming spring (rabi) crop will, so far as present appearances show, be about the same as the autumn (kharif) crop in both sections of the district.

3. The grain markets are well supplied. Prices were very dear some weeks ago, ranging

† NOTE B.

The latest printed summary issued by the Bombay Government, under date the 5th January, reached me after this minute was written; I see the price of millet there quoted at 30 lbs. per rupee. Prices are known to vary; and this is cheaper than the quotations given me by the Khandesh officers. In any case prices are clearly not dear.

up to six and seven seers per rupee; but prices are now cheaper, and millet, the food of the common people, is now quoted at 12† seers per rupee. It is said that the dearness of November was partly caused by the interference of municipalities in the grain trade; and the present comparative cheapness is ascribed to unrestricted trade and large importations from other parts of India.

4. On the relief works are about 6,000* persons, mainly employed on about three roads ;

* NOTE C.

The printed summary cited in the foregoing Note B. puts the number at 3,341, which is considerably less than the number given me by the local officers.

these works are under engineering supervision, and it is reported that taskwork is rigorously exacted. The relief wages paid on these works are one anna, plus half a *local* seer (equal to about $1\frac{1}{2}$ lbs.) of flour per diem for an able-bodied man ; women and children are paid at proportionately lower rates. The labourers on these works consist partly of immigrants from the Ahmednagar, and even from the Sholapur district ; the rest belong to Khandesh, and are chiefly field labourers who are out of work by reason of the failure of the harvest. It is believed that without this employment some of the people in Khandesh would drop into severe distress ; whether they would die is doubtful. At present but few ryots are on the relief works ; but the numbers resorting to relief works will probably increase as the hot weather comes, and the total numbers on the Khandesh relief works are expected to reach 9,000 in all, or about one per cent. on the total district population of one million. The peasantry are said to very much in debt.

5. There are some hundreds of persons receiving charitable relief, which number may increase.

6. The cotton crop, on which the people chiefly rely to pay the land revenue, has failed to a considerable extent. The Collector expects that four or five lakhs (40,000% or 50,000%) of land revenue will have to be remitted.

7. The condition of the Bheels in the Taptee Valley and on the hills beyond is reported to be now quite satisfactory. The men of the tribe are taking much trouble to graze the distressed cattle and to make themselves useful.

Next as to Násik district. In the eastern part of this district, towards Ahmednagar, the yield of the autumn crop is estimated at two annas only, or one-eighth of an ordinary harvest, and there is no prospect of any spring crop, as the seed was not even sown. Happily, the area of Násik coming under this category is comparatively small. In the rest of the district, the yield of the autumn and spring crops will be from five annas to seven annas, or from one-third to nearly one-half of an ordinary harvest. A good deal of green healthy rabi (spring) crop came under my observation.

9. The condition of the people and the supply of grain in the Násik markets is much the same as in Khandesh ; but the price of millet is somewhat dearer, being about ten† seers per rupee.

† NOTE D.

The printed summary mentioned in Note B. above gives the prices of millet at 32 and 28 lbs. per rupee, which is cheaper than the quotation given me by the Collector.

Khandesh district. At present 16,000‡

‡ NOTE E.

The summary puts the total at the somewhat higher figure of 18,900.

I could not ascertain the exact cause of this difference, but the Collector informed me that food is always a little dearer in the Násik than in the persons are employed on relief works. This total, coming to about 2 per cent. on the district population of 700,000 persons, is higher than in Khandesh. The Collector explains that many of his labourers are from the adjoining district of Ahmednagar. Relief wages are two annas a day for able-bodied men, with proportionate rates for women and children. Taskwork is said to be exacted ; and the work is mainly on roads as in Khandesh. In each of these district, one tank is to be undertaken as a relief work ; but it is said that the trap formation underlying the soil of these parts is not favourable to the construction of tanks. It is expected that the total of relief labourers in Násik will rise to 20,000 in the hot weather ; but the Collector hopes that, when the fields have to be prepared in the month of May, the numbers on relief works will rapidly decrease. Here also the ryots are said to be much in debt.

10. Some apprehension is felt regarding the supply of drinking water in the hot weather, as the Godavery and other rivers are already extraordinarily low. The grazing grounds are becoming overcrowded by cattle from the more distressed parts of the Ahmednagar district.

11. There are some hundreds of persons in receipt of charitable relief ; and these numbers will probably increase.

12. The cotton crop has been poor in Násik also ; and it is expected that three lakhs (30,000%) of land revenue will have to be remitted. The recent settlements of the land revenue have resulted in some enhancement of the Government demand.

13. *General impressions.*—Looking to the circumstances and prospects of these districts of Khandesh and Násik, I have received, subject to possible future correction, the following general impressions :—

(1.) That the local officers have no apprehension whatever of serious distress ; and the circumstances of the neighbouring districts of Nemar and Berar, where the crops have been good and distress is not felt, seem to warrant this view. I passed through the whole length of the Nerbudda Valley and saw the spring crop excellent.

(2.) All that is necessary is already being done, and well done on a regular system, carefully administered by the district officers.

(3.) If any criticism is to be made it is this,—that perhaps the local officers may be doing slightly more than is absolutely necessary for the saving of human life, and that the strictest economy should be practised and severe caution exercised as to admitting more labourers on relief works, or more persons to charitable relief.

(4.) That it is difficult to make a precise calculation of the proportion which persons receiving relief bear to the distressed population, by reason of the number of immigrants from other districts, and it is desirable to ascertain what proportion of the relief labourers are local and what proportion are from without.

(5.) That while suspension of the Government land revenue may be very proper, yet it may be prudent for the present to abstain from either remitting or promising the people any remission on account of the scarcity. I should deprecate promises of remission of land

revenue until such time as the development of the facts of scarcity shall have established the absolute necessity of such action.

- (6.) That the rate of wages on Khandesh relief works, where there is a mixed payment of cash and grain, may be a little too liberal; and perhaps this rate deserves a more detailed consideration on the spot than I am at present able to give.

RICHARD TEMPLE.

No. II.—MINUTE by SIR R. TEMPLE, dated Hyderabad, 12th January 1877.

I have had the advantage of meeting at Sholapur, and conferring on the condition and prospects of the country with some of the principal civil officers of the Deccan, with the engineer officers of the Sholapur district, and with Dr. Hewlett, the Sanitary Commissioner. These officers had, by the kindness of the Government of Bombay, been directed to meet me. The Revenue Commissioner, Mr. Robertson, had just visited the district of Ahmednagar, and he was able to describe generally the condition of the Dharwar, Satara, Belgaum, and Kaládgi districts; his information regarding the two latter districts was not quite complete or recent, because they are now under the supervision of Mr. Grey, the additional Commissioner, whom I was not able to meet. For the Poona district, Mr. Norman, the Collector, was able to give me complete information; while Mr. Grant, the Collector of Sholapur, and the engineers, Major Mathews and Mr. Burke, were ready with a full statement of facts with regard to the Sholapur district.

2. The area and severity of the failure of the crops may be thus shown for each district:—

Ahmednagar.—One-half severely affected, having secured only a one-anna crop at the autumn harvest; in this part of the district there will be only a one-anna spring crop. In the less distressed parts a six-anna (nearly half an average) crop has been secured. In the printed summaries, three-quarters of this district are shown as “affected,” but it was explained to me that only half is severely, the rest of the district being partially, affected.

Poona.—Half the district severely affected. In those parts the people ordinarily grow millet as a spring crop, and this has almost entirely failed; perhaps the year's harvest here may yield a one anna-crop. In the other half of the district, millet (bajra) is grown as an autumn crop, and the average yield will be a six-anna, or a little less than half an ordinary, crop.

Sholapur.—The whole district is severely affected. Part produces autumn and part spring millets. There has been no crop at all this season, save in small batches of irrigated land. On the whole the two harvests cannot yield more than a one-anna (one-sixteenth of a full) crop.

Satara.—One-third of the district is severely affected, and in this tract there has been a three-anna (less than a quarter) crop. In the rest of the district the harvests of the year will have yielded a six-anna (something less than half of a full) crop.

Kaládgi.—The failure of all the crops is complete and general, just as in Sholapur, and the yield of the year cannot exceed a one-anna (one-sixteenth of a full) crop.

Dharwar; Belgaum.—These two districts are in the same case: one-third of each is severely affected and will produce only a one-anna crop. Over the remainder of these two districts a six-anna (something less than half a full) crop will be secured all round.

3. For facility of reference I reproduce here the figures of the published summaries respecting the districts and areas affected, with the remark that the portions of Ahmednagar, Poona, Satara, Belgaum, and Dharwar, now said to be “severely affected,” are somewhat smaller than the areas shown in the published summaries, which are as follows:—

	Total Area in Square Miles.	Affected Area in Square Miles.	Total Population.	Population of Affected Area.
Ahmednagar	6,647	5,340	773,938	640,000
Poona	5,099	2,500	907,235	318,601
Sholapur	4,496	4,496	718,034	718,034
Satara	4,988	2,682	1,064,002	461,000
Kaládgi	5,695	5,695	816,037	816,037
Belgaum	4,591	2,660	938,750	501,000
Dharwar	4,564	3,000	988,037	630,000
Total -	36,080	26,373	6,206,033	4,084,672

4. Regarding the condition and character of the population of these districts, I am informed that in Dharwar, Belgaum, and Kaládgi the people are in general well off, the ryots are not much in debt, and they are believed to hold considerable stocks of grain. In Poona, Ahmednagar, and Sholapur, and to a somewhat less degree in Satara, a large proportion of the ryots are said to be in debt.

5. In all the seven districts the markets are well supplied with grain, which has been imported largely from other parts of India. The price of imported grain rules the market, though in most districts, except Sholapur, a certain amount of local grain is exposed for sale. Prices at the head-quarter towns and at large marts are near the same as were given* in the last printed summary. But prices are somewhat dearer in the interior away from the railway line. Generally speaking, I may say that prices are not, save in Kaládgi, dearer than 10 seers per rupee. Some weeks ago food was much dearer, and reached 10 lbs. per rupee in Kaládgi and 14 lbs. in Sholapur. The cheaper prices now ruling are due to the large importations which have taken place. If the present

* Prices for the last week, as given in the latest summary printed by the Government of Bombay:—

Ahmednagar	-	30	lbs. per rupee.
Poona	-	23	”
Sholapur	-	20	”
Satara	-	20 $\frac{1}{2}$	”
Kaládgi	-	17 $\frac{1}{2}$	”
Belgaum	-	20	”
Dharwar	-	19	”

rate of importations into the Deccan continue, and if the railway-borne grain can be distributed by local traders among the villages of the interior, there is ground for hoping that prices may not greatly rise over any large area of the country.

6. It is always difficult for local officers to give a confident opinion regarding the grain stocks. The people generally complain that the stocks are low. Mr. Robertson, the Commissioner, who has served for many years in these parts, tells me that, as a rule, the produce of the spring millet crops in the Deccan does not generally come into consumption until six months after the end of the harvest. Under this view there would even now be stocks in the Deccan equal to the demand of the country for some few months. Mr. Grant, the Collector of Sholapur, thinks that in some parts of his district where the crops of 1875-76 were short, the stocks must be very small. Mr. Norman, Collector of Poona, fears that the stocks cannot be large, for but little local grain has come out into the Poona market, which is mainly supplied with imported grain. Even these two officers, however, consider that there must be at least two or three months' supply of local grain in the country; and they expect that sufficient seed-grain, as well as a considerable quantity of local food-grain, will be forthcoming as soon as favourable rains fall. My own impression is that in the Deccan, as in other parts of India, there are still considerable local stocks in the possession of the people, while probably there are larger stocks than elsewhere in the comparatively rich districts of Dharwar and Kaládgi. Still these stocks cannot be expected to become largely available for general use, until there is some assured hope for next season's harvest.

7. The character of the previous year's harvests has on occasions like the present an important bearing on the capacity of the people to withstand a total failure of their crops. I find that the harvests of the year 1875-76 are said to have been as follows:—

Ahmednagar.—Good on the whole.

Poona.—Good in two-thirds of the district, but poor in one-third.

Sholapur.—Good in one-half, but bad in about one-half.

Satara.—Fair on the whole.

Kaládgi.—Good on the whole, and in parts very good.

Belgaum.—In parts poor.

Dharwar.—Good, except in the one-third now affected, where it was poor.

It would therefore seem that, except in Sholapur and a part of Poona, Belgaum, and Dharwar, the previous year left the people in a fair condition to meet the present failure.

8. The numbers of persons employed in relief works, according to the last published summary, are given in the margin. These figures agree very nearly with the totals now given me by the local officers. I was able to gain particulars regarding the Poona and Sholapur works only, and respecting them I note the following points:—

Number of persons on the relief works in the beginning of January:—			
Ahmednagar	-	-	30,087
Poona	-	-	47,000
Sholapur	-	-	93,120
Satara	-	-	21,108
Kaládgi	-	-	27,239
Belgaum	-	-	25,000
Dharwar	-	-	22,353
Total	-	-	265,907

9. *Poona Works.*—About 23,000 persons are on works under the irrigation officers and the Executive Engineer; all the rest (about 25,000) are on petty tank and road works under the civil officers. Taskwork or piecework is not exacted from relief labourers

under the civil officers; there is some supervision over the works, but not of the kind or strength requisite to enforce taskwork. The Collector would wish to enforce taskwork, and thereby to keep away people not actually driven by necessity. One-half the people are women and children; all of them are in good physical condition as in ordinary years, and the Collector, Mr. Norman, doubts if as many as one-half of his labourers are working from the fear of immediate want.

10. *Sholapur Works.*—About 25,000 people are employed under the engineers of the Irrigation and Public Works Departments, principally on three or four large works. Taskwork is enforced by Major Mathews, the Executive Engineer, on about one-half the labourers; the supervising staff is not sufficient to exact proper taskwork from the remainder. Recently 10,000 labourers left the Executive Engineer's works and went on the petty works under civil officers. All the departmental subordinates think, and Major Mathews agrees in their view, that a great number (perhaps half) of the workpeople are not driven to the works by the direct pressure of want. On the irrigation works Mr. Burke enforces taskwork, and his works are done at the ordinary rates. Recently, when relief wages were reduced proportionately to the cheapening of the price of grain, several hundreds left Mr. Burke's works and went to the petty works under civil officers. He, too, thinks that a great number of the labourers are not driven on the works by want. On all the works under engineering supervision the physical condition of the people is very good.

About 75,000 persons are employed upon a large number of petty works under the Sholapur civil officers. Of these more than half are women and children. No taskwork is exacted. There is some supervision, but until recently the Collector had no professional assistance. The workpeople are said to be in good physical condition. I was able myself to visit one considerable relief work a few miles outside Sholapur, where all the labourers appear to be stout and thriving. I ascertained also that a good number of the workpeople belonged to the classes who own a beneficial interest in the lands. Mr. Grant says that the state of some of the people was quite pitiable when they first came on the works two or three months ago. He believes that most of them are working to keep off starvation, for they have nothing but relief wages to depend upon; some few perhaps could get or borrow means of subsistence. He points out that in one tract (the Barsi Taluk), where the crops were good, he has only 800 labourers, whereas in the adjoining tract (Sangola Taluk), where the crops failed, some 18,000 are on the works. He says that some of the people on the works belong to the higher castes, who certainly would not come unless they were driven by want.

11. Mr. Robertson, the Commissioner, believes that a great number of the people are on the relief works who are not driven there by the pressure of actual present want. He considers that measures could be taken to reduce the number of labourers by making the labour irksome. But he points out that more professional engineering supervision and additional trustworthy subordinates are required to do this properly. He urges, and in this view the Collectors of Poona and Sholapur fully agree, that the bulk of the labourers should be concentrated on larger works, if competent professional supervision is to be adequately utilised. Mr. Grant gave me a list of 13 moderate-sized irrigation works which he recommends for the different sub-divisions (taluks) of his district; for some of these, plans and estimates already exist or are under preparation.

12. Dr. Hewlett, the Sanitary Commissioner, tells me that on all the relief works he visited, the workpeople were found to be strong and in good condition.

13. The rate of relief wages is the same which has been laid down by the Government of Bombay, namely, one anna in cash plus one lb. of grain or its equivalent in cash. This is the universal relief wage for able-bodied men, and the rate is proportionately lower. Mr. Burke, the Irrigation Engineer, showed that this sliding scale worked well in one instance, for on the price of grain cheapening, he recently reduced his relief wage to 7 anna in cash, and thereupon some hundreds of able-bodied men left the work. I am not able, after so hurried a visit to the Deccan, to say that this rate of relief wages is too high, but its working should be carefully watched on the spot, and if it proves too attractive in drawing to the works large numbers of people who are apparently well off, the rate might be reconsidered. When arrangements for exacting taskwork are complete, all persons who will not do a full day's work should get less than the present rate. In a country where the women and children of a family work, and where the helpless poor are to receive charitable aid, the relief wages should not at the outset exceed a bare subsistence. The local officers will be best able to say whether in the Deccan one lb. of flour and one anna per diem is or is not more than a bare subsistence for a single man. I am aware that it may seem hard measure to dole out bare subsistence to a hungry man who has to work all day, and I should be very glad if we could help the poor creatures more liberally; but it appears to me that the public purse and the general taxpayer cannot afford to relieve more than the barest necessities of the really distressed.

14. The Bombay Government has assigned to each district and to each sub-division (taluk, corresponding to a tahsil in Northern India) a sum of money to meet the cost of relieving the aged and helpless poor. The village officers (the patel and kulkarni) have prepared for each village a list of the blind, lame, lepers, and other absolutely helpless persons who are likely to require charitable relief, and the village officers have orders to relieve such people, and also to help starving travellers who may be found in their villages, all such disbursements being reported to the sub-divisional officer (mamlutdar). But as yet very little money has been spent out of the Government allotments. In the Poona district between 1,000 and 2,000 persons are being relieved from the Government grant; in Sholapur about 3,000 persons, and in Ahmednagar about 1,500, are being relieved by private charity. I had the pleasure of visiting three places in Sholapur where private committees distribute food daily to some thousands of applicants. All honour is due to the public who find the means for, and to the ladies and gentlemen who administer, such charity. But except the lame, the blind, the lepers, and the very aged, I did not see any applicants who would, under a strict view of the case, be fit recipients for State charity outside the relief works. I saw not a single one of those emaciated adults or of the unmistakeably famine-stricken children whom many of us saw with sorrow in the worst times of the Behar famine. Among the 1,700 children to whom the daily dole was being distributed, my eye did not detect one who was not plump and comparatively well clad.

15. The local officers pointed out that if village to village inspection be needed to save life, when the great pressure comes during the hot season, sub-circles will have to be formed under the sub-divisional officers, and the village staff will have to be strengthened in larger villages and in smaller towns. Mr. Robertson, the Commissioner, considered that in the most affected tracts a European relief officer would be required for each sub-division (taluk).

16. It was mentioned that suspension or remission of land revenue were being proposed in each district as follows:—

In the Ahmednagar district	6 lakhs	out of a total land revenue of	-	-	11 lakhs.
„ Poona	6	„ „ „ „	-	-	13 „
Sholapur	10	„ „ „ „	-	-	10 $\frac{3}{4}$ „
Satara	5	„ „ „ „	-	-	15 „
Kaládgi	6	„ „ „ „	-	-	12 „
Belgaum	5	„ „ „ „	-	-	14 „
Dharwar	4 $\frac{1}{2}$	„ „ „ „	-	-	22 „
Total	42	„ „ „ „	-	-	97 $\frac{3}{4}$ „

The Commissioner and the Collectors agree that if a bumper crop comes next year then much or most of the land revenue suspended this year could be collected. If two good years were to come, then all the suspended Government demands could be recovered. Four years ago in Poona the Collector succeeded in collecting all the land revenue suspended during the previous year.

17. The local officers laid stress on the difficulty and loss of cattle occasioned by the utter absence of green or any other fodder. The Bombay Government has done all that can be done by opening the forest reserves and helping to carry cattle thither. The Collector of Poona reported that in the affected part of his district no cattle are left, save a few pairs which ply in grain carts; all the rest have gone away to the grazing grounds in the hills. Some died on the journey. The cattle from Ahmednagar are said to have been driven off the hills, while some are

being fed at home on the produce of irrigated lands. In Sholapur the case is worse, for many of the cattle have been sold in the Nizam's territory, or died on the road to the hill forests beyond Poona.

Mr. Robertson and Mr. Norman say that the ryots themselves do not as yet feel afraid that their plough cattle will die before the rainy season begins. These officers believe that the deaths have been as yet mainly among the old cows and other worn-out beasts.

18. Relief labour is being employed to secure and improve the water supply. Already difficulty is being felt in some places; the great tank under the Sholapur Fort, which ought to have 10 feet of water all the year round, is now absolutely dry, and the city has been saved from a water famine by digging a channel from a neighbouring irrigation canal. The general drought all over the country, and the fact that less excessive failures of the water supply are of frequent occurrence, are strong reasons for preferring irrigation schemes to any other relief works in the Sholapur district.

19. *General Impressions.*—From my conference with the local officers, I have received the following general impressions, which, however, are open to future correction:—

- (1.) The civil officers know where and what degree of distress is to be expected and are ready to meet it with a full sense of their duty to the people and to the Government. So far as distress has come they have successfully met it.
- (2.) There has been extreme failure of crops, and there will probably be keen, far-extending, and prolonged distress in Sholapur and parts of Kaládgi, Ahmednagar, Poona, Satara, Belgaum, and Dharwar; but the people are, save in Sholapur, in fair condition to meet distress. As some measure of the degree of distress I subjoin the best estimate I have been able to procure from local officers of the largest number of persons who will be on the hands of Government at the worst time, that is, in the month of May.

	NUMBER OF PERSONS.		
	On Relief Works.	On Charitable Relief.	TOTAL.
Ahmednagar - - - -	100,000	10,000	110,000, or $\frac{1}{7}$ th of the population.
Poona - - - - -	100,000	10,000	110,000, or $\frac{1}{8}$ th ditto.
Sholapur - - - - -	250,000	25,000	275,000, or more than $\frac{1}{3}$ rd ditto.
Satara - - - - -	75,000	7,500	82,500, or $\frac{1}{12}$ th ditto.
Kaládgi - - - - -	100,000	10,000	110,000, or more than $\frac{1}{8}$ th ditto.
Belgaum - - - - -	75,000	7,500	82,500, or $\frac{1}{4}$ th ditto.
Dharwar - - - - -	75,000	7,500	82,500, or $\frac{1}{12}$ th ditto.

- (3.) There is some risk lest some of the civil officers in their anxiety to save the people from all distress should admit to relief works persons who could subsist for a time at any rate without State aid.
- (4.) It is necessary to exact taskwork rigorously from relief labourers, and for the accomplishment of this end, workpeople must be concentrated; additional professional assistance is needed.
- (5.) Additional assistance is required to enable district officers to inspect and watch the people of the severely affected tracts village by village.

20. In this minute I have stated the information as I received it from the local officers quite unreservedly. But I cannot conclude without offering my tribute of commendation to the zeal and ability with which the threatened famine is being combated by the local officers. And though I certainly think that some economy in expense may be introduced, I believe that the Local Government may be congratulated on the manner in which the substantial safety of some five millions of people is being secured under circumstances of much danger.

RICHARD TEMPLE.

III.—MINUTE BY SIR RICHARD TEMPLE, dated Hyderabad, the 12th January 1877.

Having passed through the Bombay Presidency, and having had the advantage of conferring with some of the officers engaged on relief operations, I have to present the accompanying estimate of probable relief expenditure, together with the following remarks, premising always that the necessity of proceeding onwards has caused my time to be very short, and that consequently my facts and comments are subject to correction.

2. The three striking features in the scarcity of the Bombay Presidency are—

- (1.) The utter and entire failure of crop in the worst affected tracts, hardly admitting of even one-anna yield out of the sixteen annas (assumed good crop) being expected.
- (2.) The extraordinary activity of private trade, supplying fully with grain the markets in large districts which had suffered total loss of a whole year's harvest.
- (3.) The comparative cheapness of prices in these districts, averaging from 20 to 24 lbs. the rupee for common food grains.

3. The sum total of the estimated expenditure may be stated at one and a half million sterling (1,500,000L.), as compared with 1,300,000L., the original

* Major-General Kennedy's letter of 30th November. estimate as furnished* by the Government of Bombay. It is possible that this estimate may be exceeded in one or two respects, namely, the total number on the 1st May may be

greater, and the distress may be prolonged somewhat beyond the time contemplated, that is, the end of July. Even if, however, these points should turn out unfavourably, still it would appear that the total would not exceed one million and three quarters, and would be kept within two millions. The present estimate seems to vary from the previous estimate, in that the number of relief labourers is rather more than the anticipation at the beginning of the scarcity, and rather less at the worst period. There seems to be no doubt that whatever distress threatened to break out in the beginning has been stopped by the action of the authorities, and that the threatened famine is being kept well under hand. The only question now claiming consideration is whether circumstances do not admit of severe economy of expenditure being introduced in several respects.

4. If the expenditure shall be kept within the limit of 1,500,000 ₹ , or even of 1,750,000 ₹ , the result may be regarded as satisfactory, seeing that the scarcity in its severest form has settled down upon

POPULATION of the distressed areas in each district affected by the scarcity in the Bombay Presidency.

Khandesh	-	-	-	646,944 persons.
Nasik	-	-	-	250,000 "
Ahmednagar	-	-	-	640,000 "
Poona	-	-	-	318,601 "
Sholapur	-	-	-	718,034 "
Sattara	-	-	-	461,000 "
Kaladgi	-	-	-	816,037 "
Belgaum	-	-	-	501,000 "
Dharwar	-	-	-	630,000 "

Total - 4,981,616 persons,
or say five millions.

the whole of the districts of Sholapur and Kaladgi, upon half of the districts of Ahmednagar and Poona, and about one-third of the districts of Sattara, Dharwar, and Belgaum, besides scarcity to some degree in the districts of Khandesh, Nasik, and Ratnagiri. The numbers of the persons thus affected amount to five millions, this being the total in the printed returns, to which I find the local authorities still adhere. For facility of reference the number for each district is given in the margin. Out of this total it is now estimated that at least 950,000 will be receiving relief in some shape or other during the month of May,

the number at the beginning of the current month, January, being about 300,000 persons.

5. But if the expenditure is to be kept within this limit, certain points seem to me to deserve special attention, namely:—

- (1.) The exaction of taskwork upon all the lesser works under the district officers, upon most of which works I fear that it is not at present exacted in the same manner as it is upon the works under engineering authorities. The present work is thought to be not hard enough.
- (2.) The withholding of admission to the relief works in the case of those persons who do not appear to be in a depressed condition. Most of the officers whom I consulted seem to think that a certain proportion of those now on the works are not in absolute want.
- (3.) The concentration, until at least the 1st April, of relief labourers, under the civil as well as under the engineering authorities, upon works of those larger descriptions which admit of professional supervision.
- (4.) Special caution in the admission to the relief works of ryots and others whose names are registered as possessing tenures or under-tenures in land, as it is to be presumed that, for the present at least, such persons would either have some little store of grain or some means of raising money wherewith to buy food. I am informed that a certain, perhaps a considerable, number of these persons are already being employed on the works, and the necessity of this appears to me doubtful.
- (5.) Great care in admitting to charitable relief from State funds those who may be unable to work. I saw at Sholapur some thousands in receipt of organized and most praiseworthy private charity, among whom were great numbers that were not in such extremity as to render them absolutely eligible for charitable relief at the public expense.

6. I fear that unless economy be carefully and persistently exercised in the respects I have mentioned, it may not be possible to keep the total relief expenditure within the totals of the estimate which I now offer.

7. If severe economy be exercised in the above respects, as apparently it ought to be exercised in the financial interests of the State, then it will be necessary to organize an effective system of inspection village to village, and as the season advances from house to house. If the labour tests and such-like precautions be rigid, then it is always possible that individuals who, from one cause or other, are unable to answer those tests, may drop into dangerous distress. If then there be no village inspection, such persons might perish; but if there be village inspection they cannot perish, for their condition will be discovered, and they will be immediately brought up before the nearest relief authority.

8. I understand that the local authorities already have some such system of inspection, though it is far from being complete, and that the Local Government is engaged in prescribing some such organization. All that I can add, therefore, is that the time is fast approaching when this organization must for the safety of life be set on foot throughout the most affected districts. For this purpose assistance in officers and in officials may be needed from elsewhere. When famine was combated in other provinces, Bombay furnished many excellent men; now when Bombay is herself distressed, she is entitled to similar assistance from her neighbours.

9. Such establishment will of itself involve some expense. But such expense will be slight as compared with the general expenses of the scarcity, and will really tend to a large economy, because it will enable the district authorities to insist upon severe and rigid labour tests (to a great saving of expense), which they could not otherwise venture upon.

10. Again, if the relief labourers are to be concentrated much more than at present upon works of larger description, the engineering establishment, both superior and subordinate, ought to be greatly and immediately strengthened. For instance, there are many small irrigation projects strongly recommended by the local authorities of the Deccan, upon the carrying out of which relief labour might be employed, but which cannot be properly prosecuted for want of professional assistance.

11. All the officers whom I met appeared to be animated by a zealous desire to do their work during this crisis to the satisfaction of Government.

12. It is impossible to conclude this brief review of the prospects of the scarcity without noticing the probable suspension and the possible remission eventually of considerable portions of the land revenue. So far as I can learn from the local authorities, the amount of land revenue recommended to be suspended in each of the affected districts is as follows:—

Khandesh	-	-	-	-	5 lakhs of rupees.
Nasik	-	-	-	-	3 ditto.
Ahmednagar	-	-	-	-	6 ditto.
Poona	-	-	-	-	6 ditto.
Sholapur	-	-	-	-	10 ditto.
Sattara	-	-	-	-	5 ditto.
Kaladgi	-	-	-	-	6 ditto.
Belgaum	-	-	-	-	5 ditto.
Dharwar	-	-	-	-	4 ditto.
Total					50 lakhs, or half a million sterling.

Looking to the utter failure of a whole year's crops, I much fear that a suspension of land revenue to a large amount (though we hope not so large an amount as that above stated) will be necessary. But further, I understand that proposals are also being made to the effect that the revenue suspended be remitted, and this too within the current year. If this shall be done, then a virtual addition of full half a million sterling to expenditure on the famine will be involved, which is of course a very serious consideration. On the other hand, I understand from some of the local officers (though this is a point upon which opinions differ) that, if the rainy season should be propitious during the next and also the ensuing year, it might be possible to collect much if not all of the revenue suspended during the present year. I am aware that some high authorities in the Deccan have deprecated the subsequent collection of land revenue once suspended. But I would suggest that in regard to the important financial interests concerned, this matter receive further consideration, and that in the meanwhile suspension only of land revenue be allowed, and that no remission whatever be now promised to the people.

RICHARD TEMPLE.

ESTIMATE OF PROBABLE RELIEF EXPENDITURE (irrespective of Suspension or Remission of Land Revenue) in the Bombay Presidency, founded on the data supplied by some of the local officers to Sir Richard Temple, at Sholapur, on the 11th January 1877.

The materials for the tabular Statement A., on which the present estimate is based, were obtained for each district as follows:—

Khandesh and Nasik.—From local officers who met Sir Richard Temple on the 8th and 9th of January.

Ahmednagar.—From the Commissioner, Mr. Robertson, who met Sir Richard at Sholapur, and who had just come from Ahmednagar, and had received nearly all the taluk reports, framed in obedience to the requisition made by the Honourable T. C. Hope's letter of the 30th November.

Poona.—From Mr. Norman, the Collector, who has received all the taluk reports for his district, and whose estimates are accepted by the Commissioner, Mr. Robertson.

Sholapur.—From the Collector, Mr. Grant, who has received, but does not fully agree in, the taluk reports of his subordinates, but whose estimate is generally accepted by the Commissioner, Mr. Robertson.

Sattara.—From Mr. Robertson, the Commissioner, who has not yet received the taluk reports, and therefore speaks from general knowledge and previous reports only, subject to future correction.

Kaladgi.—From such information as Mr. Robertson could give from his acquaintance with the neighbouring district of Dharwar. As the Kaladgi district is now under the additional Commissioner, Mr. Grey, the estimates framed by Mr. Robertson are open to correction.

Belgaum.—From the same source and subject to correction as in the case of Kaladgi.

Dharwar.—From Mr. Robertson, who has recently been transferred from Dharwar, and whose eight years' experience of the Dharwar district makes him most competent to form a correct estimate of Dharwar prospects.

2. Private trade has hitherto brought into the distressed districts as much grain as the railway and coast boats could carry; and there is every prospect that private trade will be actively maintained to the end of the present crisis. There is therefore no need to estimate, for the present at any rate, any Government expenditure on account of the purchase or transport of foreign grain.

3. The chief item of public expenditure will therefore be the payment of labourers on relief works. The present and estimated future number of relief labourers in each district is shown below for the first four dates of 1st January, 1st March, 1st May, and 1st July.

STATEMENT A.—ESTIMATED NUMBER of PERSONS expected to be on RELIEF WORKS on specified dates.

Name of District.	Number of Persons on Relief Works in the beginning of January 1877.	Estimated Number of Persons who will be on Relief Works		
		On the 1st March.	On the 1st May.	On the 1st July.
Khandesh - - - - -	4,000	8,000	15,000	5,000
Nasik - - - - -	18,000	20,000	30,000	10,000
Ahmednagar - - - - -	30,000	64,000	100,000	43,000
Poona - - - - -	47,000	68,000	100,000	55,000
Sholapur - - - - -	93,000	150,000	250,000	100,000
Sattara - - - - -	21,000	45,000	75,000	30,000
Kaladgi - - - - -	27,000	70,000	100,000	40,000
Belgaum - - - - -	25,000	50,000	75,000	25,000
Dharwar - - - - -	22,000	50,000	75,000	20,000
Add for Ratnagiri and Colaba, where some relief may be required.	5,000	15,000	50,000	12,000
Total - - - - -	292,000	540,000	870,000	340,000

For explanation of some of the figures in the foregoing table it may be noted—

(a.) The estimated total of labourers in Khandesh and Nasik is somewhat higher than the figure taken in Sir Richard Temple's minute of the 9th January, because the information given by Mr. Robertson, the Commissioner of the Southern Division, shows the failure of crops in the districts south of Khandesh and Nasik to have been extreme.

(b.) As the failure of crops in Kaladgi is said to have been as complete and as general as in Sholapur, it may seem extraordinary that a maximum of 100,000 labourers is expected in Kaladgi, when the expected maximum for Sholapur is 250,000. But Mr. Robertson, the Commissioner, explains that in Kaladgi the people are generally well-to-do, they are thrifty and possess stocks, whereas the ryots of Sholapur are much in debt, and possess but very small stocks. Furthermore, Kaladgi had an excellent harvest in 1875-76, whereas in Sholapur there was a poor crop in that year.

(c.) The figure given for Ratnagiri and Colaba is based upon Mr. Robertson's estimate.

Distress has but very recently been reported from these districts, and the failure of crops occurred in the hill tracts only. The rice crops of the Konkan lowlands were very good. Under these circumstances, Mr. Robertson does not anticipate that any large section of the people will require relief in these two districts.

4. Taking the estimated number of relief labourers on the several dates at the figures given in the foregoing table, the local officers now at Sholapur consider that—

- (1.) For the months January, February, March, the average number of relief labourers may be about the mean between the totals on the 1st January and on the 1st March.
- (2.) For the months April, May, and June, the average number of relief labourers may be about the mean between the totals on the 1st March and the 1st May.
- (3.) That the numbers requiring relief after the end of July will, if the rainy season opens favourably, be extremely small, and that an estimate of 340,000 labourers for the whole of July will suffice to cover the few labourers who may remain during August.

5. The local officers consider that one-tenth of the estimated expenditure on relief labourers will suffice to cover all charges on account of charitable relief from State funds, inclusive of the charge for additional dispensaries and hospitals. Up to the present time the expenditure on charitable relief is being defrayed mainly from private charity; but later in the season some considerable outlay may have to be incurred on relieving the destitute and incapable poor near their homes.

6. It is necessary to estimate for some considerable expenditure on extra establishment, inclusive of the additional engineering staff, that must be borrowed from other provinces for the efficient supervision of the relief works. 12 per cent. on the relief works' estimate may perhaps suffice to cover all expenditure on extra establishments and on contingencies, such as the transport of cattle and storage of grass.

7. The summary published by the Bombay Government on the 5th January showed the total expenditure on relief works up to the latest known date to have been 12 lakhs. But this total does not include all outlay on works and establishment up to the end of December, and therefore a sum of 14 lakhs has been taken as the total expenditure incurred up to the 1st January 1877.

8. According to the above views, the total estimated expenditure, provided that the country is blessed with a favourable rainy season in 1877, will be

January to March, 416,000 persons per month, for three months, at Rs. 3 per month-	Rs.
April to June, 705,000 persons, for three months, at Rs. 3 per month -	37,44,000
July, 340,000 persons, for one month, at Rs. 3 per month -	63,45,000
	10,20,000
Total -	1,11,09,000
Add for charitable relief at 10 per cent. on the relief expenditure -	11,00,000
Estimate on account of extra establishments and contingencies at 12 per cent. on relief works outlay, say -	13,00,000
Add estimated total of expenditure up to the end of December 1876 -	14,00,000
Total -	1,49,09,000

Or - £1,490,900

Or say 1½ millions sterling.

9. This estimate will be exceeded if economy should fail to be practised; if Government should unfortunately have to undertake any operations for the purchase or transport of grain (which is not likely); if the anticipations of local officers regarding the extent and severity of the scarcity be anywhere largely exceeded; or if relief should have to be carried on for a longer period than is now expected. Even if rain were to fall this month, there could not, the local officers fear, be any considerable present relief to the people, although much benefit would accrue to the cattle of the affected tracts. If, however, the local officers should have over-estimated the difficulty (which is not probable), then the estimate now presented may turn out to be excessive.

C. E. BERNARD,
On special duty.

Hyderabad, 12th January 1877.

IV.—MINUTE by SIR RICHARD TEMPLE, dated Hyderabad, 12th January 1877.

There is one matter connected with the supply of grain to the districts of Southern India, where the crop has failed, to which I wish to draw immediate attention, in order that a remedy may be, if possible, applied.

2. The affected districts are traversed by guaranteed railway lines, and private trade has been so active in sending grain into the country, that there has not been, and I hope there may never be, any question of Government buying grain and carrying it into the affected tracts of the Bombay Presidency. But there seems to be a serious block in the railway traffic, and I fear that the block may act very injuriously upon the active private trade which has hitherto flourished. I am aware that this great grain traffic has come suddenly on the railways, and that the railway agents and traffic managers have, especially on the Great Indian Peninsula Railway, made great and not unsuccessful efforts to meet the sudden demand. But I hope the difficulties in the way of still greater success in this respect may be overcome.

3. I have as yet visited the Bombay Presidency only, but I have ascertained that in its districts there has been a failure of the food crops over areas inhabited by five millions of people. The markets from which these people draw their daily food are now supplied almost entirely with grain imported by the Great Indian Peninsula Railway. Again, it is well known that the food crops of a still larger population in the Madras Presidency have failed, and that some millions of people in Madras would consume railway-borne grain if only they could get it.

4. Thus we have at the south a very large and a very urgent demand. And we have also in the north a very large, practically an unlimited, supply. In the Berars, in the Central Provinces, in the Punjab, in the North-western Provinces, and in Behar, there has been a good autumn harvest, and there is every prospect of a good spring harvest. All these provinces moreover produce in good years more than they can consume. They have therefore a large surplus. The importance of rapidly conveying this surplus food to the scarcity stricken districts is too manifest to need exposition. But, while much is being conveyed, there is a portion unfortunately lagging behind. Now, I learn that at the beginning of this month 12,000 tons of grain were said to be waiting for waggons at Cawnpore, 5,000 tons were waiting at Nagpore, and large quantities (as I saw myself) at several of other stations on the East Indian Railway, on the Jubbulpore extension on the Nerbudda Valley line, and at the Berar stations. Even to-day, at a station in the Nizam's country east of Goolburga, I saw several hundreds of bags of grain ready for transport to Bellary, one of the Madras distressed districts. In all these cases the dealers complained to me of delays; in some cases the delays were said to be excessive.

5. During my journey upon the Great Indian Peninsula Railway, I found that not only was grain waiting at many stations to be put into waggons, but below the Bhore Ghât I found 900 loaded grain waggons, stretching over four miles of line, which had been turned into a siding below the Kurjut station. I was told to-day that 400 more loaded grain waggons, consigned to the Madras districts, are standing on the Great Indian Peninsula Railway line between Goolburga and Raichore. I have been informed that general instructions have been issued to all the Great Indian Peninsula Railway stations not to consign any grain, until further orders, for stations above the Thull Ghât, that is to say, for stations in the famine country. And it has been explained that the cause of the block at Kurjut and at Raichore is, that the Madras Railway is unable to take any more grain at present, although nearly all the grain now standing on the line (that is to say, about 1,300 waggons, or 9,100 tons, at Kurjut and Raichore) is consigned to stations on the Madras line.

6. The evil effects of this block and of the stoppage of consignments to the distressed tracts are manifold. The price of food in the distressed tracts is kept higher than it ought to be.

Up-country dealers, who, if they could get their grain into the Madras districts moderately quickly, would certainly continue to send more and more, are becoming wearied by delays and consequent losses, and they may give up the business. I am informed that dealers at Nagpore have actually sold their grain at the Nagpore station, and given up their venture, because they could not get their bags away. And further, there is always a doubt whether, now that fodder is so very scarce, grain carts will ply in sufficient numbers from the railway stations into the interior of the affected districts. If a good and continual supply arrives at the stations, the cartmen will get constant work and good prices, and so a sufficient quantity of carriage may be maintained. If the supply of grain falls off, the cattle will be driven away to the hills, and there will be a dearth of carts in the spring and summer months to distribute grain from the stations into the interior.

7. All I can do at this moment is to report the actual block without undertaking to specify the causes or the remedies required. It may be that additional engine power is required; that more crossing stations or sidings are necessary; that rolling stock ought to be borrowed; that some change in the working of trains is required; or that the working staff should be strengthened. I cannot at present say what the causes of the block may be. But I think immediate steps should be taken to ascertain what (if anything) is wrong, and to apply such remedies as may be possible. I suggest that a very active officer of the Government of India Railway Department be at once deputed to visit the Great Indian Peninsula

* NOTE.—I believe reserved stocks of unconstructed portions of engines may be in store at Jamalpore on the East Indian Railway, at Byculla on the Great Indian Peninsula Railway, and perhaps at other places.

and Madras Railways, and to confer with the traffic authorities upon the matter. The officer selected should have authority to sanction on behalf of Government such outlay on temporary sidings, on borrowing engines and rolling stock, on setting up at once such new engines as may be in stock* on the different guaranteed railways. And the officer deputed should be directed to stay on the Madras (or other blocked, Railway, until all that he recommends shall have been done, and until the grain traffic is working as well as circumstances permit. With such officer there should, I think, be associated a selected civil officer of special experience in traffic matters.

RICHARD TEMPLE.

Revenue, No. 24.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 15th March 1877.

Para. 1. The Despatch of your Excellency in Council, dated 19th January, No. 4 of 1877, forwarding a copy of the instructions to Sir Richard Temple with reference to his mission to the Bombay and Madras Presidencies, has been considered by me in Council.

2. I approve of the policy which you have laid down for the guidance of Sir R. Temple. The object of saving life is undoubtedly paramount to all other considerations. But it is essential that in pursuing this end your officers should sedulously guard against the danger of inducing the population to rely upon Government aid rather than upon their own industry and thrift. In the interest of the distressed population itself, as well as of the taxpayers generally, you are bound to adopt precautions against indolence or imposition, similar, so far as the circumstances of India will permit, to those with which, in this country, it has always been found necessary to protect the distribution of public relief from abuse.

3. I observe with much satisfaction that your Government is taking into serious consideration the question of the incidence of famine charges, to which your attention was called in my Despatch of the 25th November 1875, and I can assure you that in carrying out the principles laid down in that Despatch your Excellency may count on my cordial support. The practical application of them is not free from difficulty; and I shall await with great interest the communication of the measures by which you propose to carry them into effect.

4. Four minutes on the condition of the affected districts in Bombay, submitted by Sir R. Temple to your Government, accompany the Despatch under reply. These show that the prospect is very serious, especially in Sholapur, but I perceive with satisfaction that Sir R. Temple bears testimony to the zeal and energy of the authorities in the distressed Collectorates. If the first conditions stated in the fifth paragraph of the third minute, dated 12th January, are kept carefully in view and vigilantly acted on, I trust the expenditure in relief operations in the Bombay Presidency may be kept within the limit indicated by Sir R. Temple of 1,500,000*l.*, or perhaps 1,750,000*l.*

5. The requisitions by Sir R. Temple for an increase in the supervising, and especially in the engineering, staff, will, I am confident, have received the best attention of your Excellency in Council.

6. I approve of the instructions to the Government of Bombay to abstain at present from making or positively promising remissions of land revenue.

7. Your telegrams have informed me of the arrival of Sir R. Temple at Madras; I may, therefore, expect at an early date the remarks of that officer on the condition and prospects of the districts in that Presidency which have been so severely affected by the present calamity.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 5 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 26th January 1877.

In continuation of our Despatch of the 19th instant, on the subject of the

Memoranda by Mr. Bernard, Nos. V. and VI., dated 16th Jan. 1877.

Minute by Sir R. Temple, No. VII., dated 19th Jan. 1877.

Memorandum by Mr. Bernard, No. VIII., dated 19th Jan. 1877.

Minute by Sir R. Temple, No. IX., dated 20th Jan. 1877.

Telegram from Sir R. Temple, dated 22nd Jan. 1877.

Ditto ditto 20th "

Ditto ditto 23rd "

Ditto ditto 23rd "

Ditto ditto 23rd "

Ditto from Government of India to Madras Government, dated 26th Jan. 1877.

Telegram from Government of Bombay, dated 18th Jan. 1877.

Letter from ditto ditto No. , dated 18th Jan. 1877.

" to ditto ditto No. 57, dated 16th "

" from ditto ditto No. 260C.-W., dated 9th Dec. 1876

" to ditto ditto No. 1T., " 20th "

" from ditto ditto No. 22C.-W., " 8th Jan. 1877.

" to ditto ditto No. 90, " 23rd "

Telegram from Sir R. Temple, dated 23rd January 1877.

war. There have been showers in Násik, Ahmednagar, and Sholapur, and a heavy storm in Khandesh, which has injured the rabi crops and washed away those in the beds of rivers.

3. In the Madras Presidency slight rain has fallen in parts of the Kistna, Nellore, Chingleput, and North Arcot districts, but without practically improving the position of affairs. In Bellary there has been a large reduction in persons on the works, but this is nearly counterbalanced by increases in some of the southern districts, the condition of which is undoubtedly serious. The total number on the relief works is 1,015,835, independently of persons receiving gratuitous support.

4. Sir Richard Temple has visited all the central and southern districts of the Madras Presidency, and is to reach Madras to-day, for the purpose of conferring with the Local Government. We have received, and enclose herewith, three memoranda from his secretary, Mr. Bernard, on the condition and prospects of the Kurnool and Bellary districts, and the organization of relief in the former, as also two minutes from Sir Richard himself, suggesting means of reducing and controlling relief expenditure in the districts of Bellary, Kurnool, and Cuddapah, and commenting on their condition. Regarding these districts, he makes very important suggestions, the result of which he estimates, in a separate telegram, will be a reduction in expenditure of 10 lakhs of rupees per mensem. You will observe, from other telegrams from him which we enclose, that Sir Richard Temple considers that relief operations in North Arcot are cheaply and efficiently conducted as compared with those in Cuddapah; that there has been some mitigation of the block of grain on the railways, but that the Madras line is still unequal to the demand for carriage; and that he has submitted to the Bombay Government suggestions analogous to those sent to Madras, whereby he hopes that 25 lakhs of rupees may be saved.

5. With reference to the subject of suspending instead of remitting arrears of land revenue, we have commended to the consideration of the Madras Government a suggestion from Sir Richard Temple in favour of suspension only for the present. On the other hand, we are led by a telegram from the Bombay Government, of which a copy is enclosed, to anticipate objections from that Government to the instructions which we issued, as reported in our last Despatch; but the promised communication has not actually reached us.

6. In connexion with your Lordship's telegram of the 16th instant, and our replies of the 17th and 23rd instant, we have to report we have authorised the Madras Government to begin the Chingleput Extension Railway if, after consultation with Sir Richard Temple on the condition of the Chingleput district, they consider the measure to be necessary.

7. The inconvenience and irregularities arising from delegating to Collectors in the Bombay Presidency the important power of commencing relief works without the previous sanction of the Revenue Commissioner having come prominently before us, we have requested his Excellency the Governor in Council to take steps for its withdrawal, and enclose a copy of our letter on the subject.

8. In continuation of paragraph 6 of our Despatch of the 12th instant, in which mention was made of slight distress in the Colaba and Ratnagiri districts of the Bombay Presidency, we enclose copies of correspondence connected with those districts and the opening of relief works in Kanara, from which your Lordship will see that we have found it necessary to lay down, as a general principle, that the British Government is not under any obligation to provide extensive relief for the subjects of Foreign States.

9. In conclusion, we would invite your attention to a telegram from Sir Richard Temple in which he shows the application of certain paragraphs of our instructions to the condition of affairs in Madras and Bombay.

We have the honour to be, &c.

(Signed) LYTTON, &c.

No. V.—MEMORANDUM regarding the condition and prospects of RELIEF AFFAIRS in the KURNOOL DISTRICT, as ascertained at Sir Richard Temple's Conference with the Local Officers on the 14th and 15th January 1877.

The officers who met Sir Richard Temple at Kurnool were Mr. Davidson, who had joined the district as Collector about a fortnight previously, and Messrs. Clogstown and Gibson, civil servants of 12 years' standing, who had been deputed to Kurnool for relief duty about six weeks ago; Mr. Latham, Chief Engineer of the Irrigation Company, was also good enough to furnish valuable information. Rajasatna Modeliar, Deputy Collector, deputed on relief duty to the south of the district, met Sir Richard at Peapally; and at Kurnool a conference of some 25 of the chief local traders was held, from whom information regarding the grain trade was obtained. As Mr. Davidson's heavy current duties had prevented him from fully acquainting himself with all that had happened before his arrival, he introduced to Sir Richard Gopaul Krishwama Chetty, Deputy Collector, and also the Dewan (Native Superintendent) of the Collectorate Office, both of whom had served long in the Kurnool district, and had been much trusted by successive Collectors.

2. All the ordinary crops of the year 1876-77 have failed over the whole of the district; and the only areas from which any appreciable yield has been, or will (by March 1877) be, secured are the lands watered from wells or by the Irrigation Company's canal. The ordinary acreage of Kurnool food crops and the estimated yield of the current year is as follows:—

	Area sown in the last ordinary year.	Estimated yield of the current year's crop.
Cholum (or jowari or big millet)	904,000	Two annas, or $\frac{1}{8}$ of ordinary good crop.
Korra (a lesser millet)	322,000	Half-anna, or hardly any appreciable yield.
Arkalu, small poor grain	142,000	Ditto ditto ditto.
Cumboo (a lesser millet)	83,000	Ditto ditto ditto.
Rice (both early and late crops)	74,000	Two annas, or $\frac{1}{8}$ of an ordinary yield.
Ragi (lesser millet)	17,000	Ditto ditto ditto.

The cotton crop, which covered during the previous year 202,000 acres, also failed utterly.

It is noteworthy that though the canal is in full working order, and can water from 20 to 300,000 acres, yet in 1875-6 only 9,000 acres took canal water. Even in the present famine year nine-tenths of the canal water ran to waste until November, and about two thirds is going off unused; though Government has engaged to pay the water rent this year on lands which may take water, and yet fail to produce a good crop.

The only crops which have given any appreciable yield are cholum and rice, and this yield has been secured on the irrigated lands only. About 16,000 acres are irrigated from tanks and wells, and 72,000 acres have this year taken canal water. The present utter failure was due to the short rainfall; the average yearly rainfall of the district for the last three years being $32\frac{1}{2}$ inches,

while the average rainfall of 1876-77, from June up to the end of December, was $5\frac{1}{4}$ inches for the whole district, ranging from $2\frac{1}{2}$ inches in the Markapore to $8\frac{1}{4}$ inches in the Nadial taluk.

3. The harvests of the preceding year 1875-76 were fairly good all round; in the year 1874-75 there was too much rain, and the yield was below the average. After the irrigated crops now in the ground shall have been reaped, the first food crop will be the cholum (millet). If the rainy season is favourable, about two-thirds of the whole cholum crop of the district will be ripe in September. The rest (about one-third) of the cholum is a winter crop, and is reaped about

January. Some, but only a small proportion, of the lesser millets will also ripen in September. The district ordinarily produces quite enough food for the support of its people. The staple food of the ryots and poorer classes is millet (cholum, korra, arkalu, and cumboo); the richer classes eat rice. A good deal of rice is ordinarily imported into the district from the Nizam's territory, while other food grains are exported to Bellary and Cuddapah.

4. The total population of the Kurnool district is 912,000. Kurnool is the only large town with a population of 35,000. The people mostly live by the land; the weaver, pariah, and other labouring classes being roughly estimated at about one-third of the whole. There are 85,000 ryots holding land directly from Government, besides some 10,000 to 12,000 privilege holders (inamdars) of different kinds. About 35,000 of the ryots have substantial holdings, and out of these 4,000 hold really considerable farms, but 50,000 ryots possess small holdings of about six acres and under. The trading classes are numerous and prosperous, but it is said that more than three-quarters of the ryots are heavily in debt, and have mortgaged their land or their bullocks. To the eye of a man from Behar the Kurnool peasantry look well clad and prosperous, but the local officers say that the great bulk of the people have neither stocks nor credit to fall back upon, and that as there is no work to be done in the fields they have no means of earning their living off the relief works. It is urged also that the immense increase of thefts and dacoities in the autumn evinced the straits to which the people were driven, especially as violent crimes of this kind almost ceased when relief works had been everywhere opened. There is an abundance of roomy bullock carts (of the Madras bandy type) in the district, and these ply freely over the roads of the plain country, but the district is intersected by rocky hills, on the passes of which the large carts ply with difficulty.

5. The grain markets are at present fairly well supplied with rice and cholum. Part of the supply comes from home stocks, and part is imported from the Nizam's country, or from stations on the railway, to which it comes from Madras and from Central India. On only a very few of the more remote relief works have the labourers been on occasions unable to buy food locally. Importations of grain have slackened somewhat lately; the traders explain that prices are cheaper since Government grain began to come, and so the profit on importations from a distance is smaller and less certain.

6. The present prices of grain in Kurnool are—

Cholum	-	-	-	-	-	8½ seers per rupee.
Common rice	-	-	-	-	-	6½ " "

The average price of cholum at Kurnool during the last three years has been 28 seers per rupee. Some weeks ago prices were dearer than they are now, having touched 6½ seers for cholum, and 5 seers for rice. The prices quoted for Kurnool apply to most of the chief markets in the district, for they, too, draw supplies direct from railway stations.

7. For some weeks past Government has been importing rice from Madras (believed to be Cocanada rice) into Kurnool by railway. It is understood that the Government propose to import 2,000 tons (about 54,400 maunds) of rice into Kurnool per month for four months. The price at which this grain is being put down at Kurnool is not precisely known to the local officers. The Collector has also bought grain in the local markets, and is making contracts with Kurnool traders for the supply of some 3,000 tons for his relief works. About 33,000 maunds (1,200 tons) of Government grain have already been expended, and out of this total 13,200 maunds consisted of grain purchased locally.

8. Relief is being given to the people mainly in the shape of wages for labour on relief works. Employment is given mainly on some 250 miles of roads and cross-roads, and the people are engaged in throwing up embankments, making cuttings, and in collecting, stacking, spreading, and consolidating road metal. On one large tank 10,000 people are said to be employed, but on the whole a comparatively small number only are on tanks and petty village works. As the

* Interest on its capital is guaranteed by Government, and the whole charge for interest has hitherto fallen on the public treasury. Irrigation Company's canal is a private* concern, no relief labourers are employed on canal extensions, although the canal engineers are understood to have on hand schemes for such extensions.

9. The total number of persons returned as employed on relief works in Kurnool on the 6th January is 320,338. Up to that date everybody who applied was taken upon the works, and received a daily relief wage which at one time was 3 annas a day. During the last three weeks the rate has been 2½ annas a day, and this week it is being reduced to 2 annas a day. For some few days a corn wage of ¾ of a seer (1½ lbs.) of rice was given. These rates are for adult males, the wages for women and children being proportionately lower. A full day's wage is paid, but no labour is exacted for Sunday. It is not possible to say precisely how many of these persons on the returns are women, and how many children, for biggish boys are rated as women. But among the workpeople (some thousands) whom Sir Richard Temple saw on works round Kurnool the great majority seemed to be women and children. None of the workpeople whom he saw bore on their persons signs of present or past want; and their clothing was certainly better than the raiment of ordinary day labourers in other parts of India.

10. Thirteen lakhs of rupees have already been spent on Kurnool relief works, and the present expenditure is at the rate of about Rs. 30,000 a day. The engineering staff of the district is small† for the work now doing; and hitherto no taskwork or piecework has been exacted from the labourers, who spend a certain number of

hours on or near the works, and go back to their homes in the evenings. In only a very few instances did Sir Richard observe that labourers had put up temporary shelter for them close to works, though it was said that some of them come from villages 7 or 8 miles away. The workpeople are mostly paid under the supervision of civil officers of different grades, though the services of the engineering officials are fully utilised as far as they go. A revenue inspector, on a salary of Rs. 20 a month, who was employed near the Gooty road, said that he had 10,000

† 1 engineer.

3 assistants or other range officers.

8 overseers, one for each taluk.

4 extra overseers ordered from other districts, and now arriving.

relief labourers under him, whom he managed and paid through gomashtas (clerks) and maistries (gangmen). Mr. Clogstown, the Kurnool relief officer, stated that the coolies whom he had employed in the grain store at 4 annas a day complained that the work was too hard, and went off to the relief works on $2\frac{1}{2}$ or 2 annas a day.

11. Mr. Davidson, the new Collector, was not satisfied with the state of affairs he found at Kurnool, and he has drawn up rules for enforcing taskwork, and for paying labourers according to the task they may perform. These rules seem to be in the main good, and should be worked upon as quickly as possible; but a largely increased number of trustworthy engineering subordinates is required. Meanwhile the maximum daily relief wage should be brought down to the bare subsistence point, and the Sunday present of one day's wages might cease. Mr. Davidson considers that a rigorous exaction of taskwork will drive away from the relief works all people who could support themselves otherwise; and he anticipates that he will be able very materially to reduce the numbers of relief labourers, and also to keep them from increasing hereafter to the high maximum named by the local Native officials. The Native Deputy Collector in charge of relief work at Peapally expressed an opinion that 20 per cent. of the relief labourers could thus be reduced. The Collector's assistants, Mr. Clogstown and Mr. Gibson, fear that only 10 per cent. could thus be reduced. The Native officials of Kurnool and of the several taluks (sub-divisions) have estimated, and appear still to believe, that 500,000 people (more than half the population of the district) will eventually, at the worst time of the year, come upon the relief works. But the Collector, Mr. Davidson, does not accept this estimate; he hopes to get the number of relief labourers down to 250,000, and to keep the number from very greatly exceeding 300,000, provided he can obtain adequate engineering assistance.

12. Gratuitous relief is being given from private charity to some 2,000 indigent persons in Kurnool city. Sir Richard Temple visited the Kurnool poorhouse at the time cooked food was being distributed. Most of the recipients were infirm, blind, lame, or otherwise unfit to labour; and a considerable proportion were small children. The numbers who are obtaining gratuitous relief at the public expense in the interior of the district are said to amount to 4,000; but there seems some doubt about the number for the Cumbum taluk, where charitable relief is sometimes given in the shape of cash, 2 annas a day for adults. The administration of charitable relief is under the direction of civil officers, but it is not clear that such relief (at present not large compared to the relief wages) is administered on a uniform system.

13. The condition of the cattle is said to be bad. But there is a good deal of fodder along the canal and on the marshes which it creates. The cattle have not been driven away to distant

* On the Gooty road were passed this morning (16th January) 127 carts, with an average load of over eight bags (16 maunds) each, so the bullocks were doing good duty, as the gradients on part of the road are steep.

pastures outside the Kurnool district, and they suffice for the grain carts, though they are said to be in bad condition and unable to draw heavy loads. It is believed that more cattle than usual are dying; and this belief is borne out by the fact (to which the owner of one of the chief tanneries testified) that four or five times the usual number of hides are now being brought daily to the Kurnool tanneries.

14. The Collector has not yet reported how much of the land revenue will have to be suspended or remitted in Kurnool. Notices of demand for the instalment of land revenue now due are being issued, but the collection has not regularly begun. From some of the taluks (sub-divisions) suggestions have come in which point to the suspension of more than half the current year's land revenue, and the possible eventual remission of nearly one quarter. The total land revenue of the district is between 12 and 13 lakhs. As yet no remissions whatever have been granted or promised.

C. BERNARD,

On special duty.

Gooty, 16th January 1877.

NO. VI.—MEMORANDUM regarding the STAFF required for RELIEF OPERATIONS in the KURNOOL DISTRICT.

Mr. Davidson, the Collector of Kurnool, asked for suggestions regarding the staff he ought to organize and the manner of its employment for effectually combating distress in his district. This memorandum has therefore been drawn up under Sir Richard Temple's orders, and contains suggestions dictated by experience in previous famines.

2. The Kurnool district contains an area of 7,037 square miles and a population of 912,000 souls.

It is divided into eight taluks (or tahsil sub-divisions), thus:—

	Total Population.	Percentage of Population now on Relief Works.	Some Characteristics of the Taluk.
Ramalkotha (head quarters) -	146,000	49 per cent.	Mostly open plain; is traversed by the canal.
Pathkonda - - -	171,000	21 "	Large area; much of it hilly.
Koilkantla - - -	98,000	45 "	Mainly open plain; traversed by the canal in one corner only.
Nandi Kotkar - - -	101,000	27 "	Plain parts traversed by the canal; east part hilly and sparsely peopled.
Nandial - - -	107,000	46 "	Valley part traversed by the canal; remainder hilly and sparsely peopled.

	Total Population.	Percentage of Population now on Relief Works.	Some Characteristics of the Taluk.
Sirwell - - -	71,000	36 per cent.	Traversed by the canal; mostly open country.
Cumbum - - -	123,000	44 "	Hilly in parts; remote from head quarters.
Markapur - - -	92,000	19 "	Hilly, sparsely peopled; large area; difficult of access for carts.

3. At present the Collector's civil staff consists, besides the police officers of—

3 covenanted assistants of several years' experience.

1 covenanted assistant of one year's work.

3 uncovenanted European officers, who are said to be active and efficient.

2 Native Deputy Collectors, besides the Treasury officer.

2 additional Deputy Collectors, under orders for Kurnool, but not yet arrived.

8 tahsildars with their staff of revenue inspectors and clerks, &c.

And the engineering staff of the district consists of—

1 executive engineer.

3 range officers, either sub-engineers or supervisors.

8 overseers, one for each taluk.

4 additional overseers recently deputed for relief duty.

The district and its relief work of all kinds are at present divided into three sections thus—

Kurnool section	- { Under Mr. Clogstown, C.S., with head-quarters at Kurnool - - - - -	{ Ramalkotha Taluk. Pathkonda " Koilkantla " Nandial " Nandi Kotkar " Sirwell " Cumbum " Markapur "
Nandial section	- { Under Mr. Gibson, C.S., with head quarters at Nandial - - - - -	{
Cumbum section	- { Under Mr. Farmer, C.S., with head quarters at Cumbum - - - - -	{

4. Probably this arrangement cannot be improved* upon. But steps should be taken to

* Major Hicks, who is not now serving in Kurnool, has suggested that Koilkantla would come better into the Nandial, and Nandi Kotkar into the Kurnool section.

accelerate the postal service to Cumbum, which is at present three days' post from the Collector. I am not sure that the other officers are at present employed to the best advantage. For instance, the Deputy Collector at Peapally has under him, so far as relief work is concerned, the tahsildars of Pathkonda and Koilkantla. Mr. Mayer has under him the Markapur Taluk and the Markapur Tahsildar. So again the Nandial Deputy Collector has under him the Sirwell Taluk and the Sirwell Tahsildar. I think that in this way there are too many links in the official chain, and that the area in charge of each primary executive officer (a whole taluk) is too large.

5. I would divide the whole district into relief circles, and would place a responsible officer in full relief charge of each circle; the circle officer would be subordinate only to the section officer and to the Collector. I suggest that each taluk be divided into two circles, with

† Major Hicks suggests that Pathkonda should also be divided into three sections.

perhaps three circles in the Cumbum Taluk. The town of Kurnool would be kept under separate management outside the head-quarter Ramalkota circle. This would give 17 circles in all, besides the town of Kurnool. Each taluk head-quarters would naturally be the site for one circle officer, and suitable central stations would have to be chosen for the other circle officers.

6. I suggest that each tahsildar, provided he be personally active and efficient, be at once

‡ Mr. Thornhill says that in Bellary the tahsildars have been thus relieved already.

made circle officer for his own head-quarter circle. He would have to be relieved entirely of all his ordinary tahsil and magisterial duties, probably the deputy (or some other local official) could be appointed to officiate in his tahsildar's room. In a famine time like this all ordinary current work diminishes, and a considerable number of the tahsil staff (gomashtas and peons) could be told off for relief duty. Then the other nine circles could be officered perhaps by Mr. Brett and the three European uncovenanted officers, and by five other Native officials whom the Collector would have to

§ Mr. Thornhill fears it would be difficult to spare many inspectors, but he thinks that men might perhaps be drawn from the Settlement and Survey Departments.

select from the police inspectors of his district, or from the class of men who furnish suitable candidates for tahsildarship and inspectorships.

7. Each circle officer will have to be a disbursing officer, so it would be well that he should be a permanent official borrowed from some other duty, whose integrity could be thoroughly trusted. Any revenue subordinates, such as revenue inspectors, within a circle should be placed under the circle officer's orders, so that he may have full command of the village officials (reddis and karnams). Sufficient shelter for him and his office would have to be hired or built, and a strong box provided for cash. Each circle officer would require at least two clerks, one of whom would be in charge of the accounts. To each circle officer would be allotted a police guard for his cash and a sufficient number of police (or other) orderlies. An allowance of Rs. 40 a month might be made to police inspectors or other officials below the rank of tahsildar who may be selected for each circle officership. I do not think any other extra allowances should be given.

8. A Deputy Collector out of the staff* now in the district should be attached to each

* At paragraph 3 above, I have shown that the district has, or soon will have, four available Deputy Collectors, besides the treasury officer.

treasury work, accounts, and current correspondence.

9. In order that the Collector, Mr. Davidson, may have time to travel in the interior, to supervise and to organize, he should have the assistance of another covenanted† officer with full powers, to whom he could delegate (during his absence from Kurnool or otherwise) the current judicial and executive work and ordinary correspondence. If this be not done,

Mr. Davidson will not be able to visit or make himself felt in the interior of the district. The officer who comes as personal assistant to the Collector would be able to direct relief operations in Kurnool town.

10. Each circle officer should have under him (or associated with him) an engineering subordinate to direct and control the work, overseers and gangmen described in the Collector's new rules (page 4). One of the range officers should be attached to each relief section of the district, so that they may direct and supervise the relief works, under the orders of the section officer, while the executive engineer should occupy a similar position under the Collector.

11. Now that such an enormous expenditure is going on, I think it would be well that the

† Mr. Thornhill says that a deputation from the Revenue Board recently came up on similar duty.

Accountant-General at Madras should depute‡ a selected official from his staff to organize and direct the punctual preparation of accounts. If this is not done now, there will be great trouble hereafter. It is believed that the Account Department will be satisfied without excessively elaborate accounts; all they require is that daily sheets of receipts and disbursements should be sent into Kurnool for compilation with detailed vouchers prepared at the time.

12. Hereafter, if village to village inspection and relief should be required, it may be necessary to form sub-circles (under the circle officer) of 10 or 15 villages each, and to place over every such circle a selected village official (reddi or karnam) or a competent clerk (gomashtha) from the tahsil or police department. But I do not think that such a measure can be at present needed, while such an immense proportion of people is receiving relief wages.

13. If these suggestions are accepted, with such modifications as local knowledge may suggest, then the steps which must be at once taken are—

- (a.) To get from Government a competent civil servant to be personal assistant to the Collector.
- (b.) To mark out circles on the map, with a central head-quarters and sufficient shelter for each.
- (c.) To nominate and send out circle officers, fill the places of officials taken from tahsil or other departments, and to provide each circle officer with a small establishment of clerks, &c., with a house, and with a map of his circle showing works in progress.
- (d.) To get from Government additional overseers, and to allot an overseer to each circle.

C. BERNARD,

Gooty, 16th January 1877.

On Special duty.

No. VII.—MINUTE by SIR RICHARD TEMPLE, dated 19th January 1877.

Having visited the Ceded Districts, comprising Bellary and Cuddapah, and also the district of Kurnool,—all of which are much affected with loss of harvests and are threatened with danger unless some interposition by Government shall be maintained,—I have to submit for the consideration of the Government of Madras certain proposals, which have reference mainly to considerations of expense, as bearing on the condition of the people. In separate memoranda I have caused an epitome to be made of all that was learnt during my visit to these districts. This minute, therefore, will be confined to suggestions.

2. There is no doubt that in these districts the threatened famine has been met and is being kept down; danger being averted from the people, distress being alleviated, and the exertions of the local officers being most praiseworthy. But in rapidly accomplishing this great amount of good, three risks are incurred; namely, 1stly, that the numbers of relief recipients should grow beyond the powers of the local officers to control; 2ndly, that the people may entertain an exaggerated idea of the extent to which the State charity can be properly dispensed; and 3rdly, that the Government may be involved in expenditure beyond its means of defraying. To obviate these two risks, two main objects might be aimed at, viz., 1st, to reduce the existing numbers; and 2ndly, to prevent the numbers from rising too rapidly.

3. When distress suddenly develops itself over an extensive area, the local authorities are generally obliged to take all comers, until the first crisis is passed, time not admitting of individual scrutiny. But afterwards, when the authorities get a little leisure to examine the position, they are often able to eliminate persons who had at the first outbreak been temporarily admitted. It is therefore not unreasonable to suppose that now, when these districts have been placed for the present beyond the reach of danger, the local authorities might be able to re-examine every person in all relief gangs and to eliminate everyone who did not seem to be in absolute need, or in such a condition as could not be endured without Government support. It may be conceded that many of those in the gangs are in absolute need. But I am sure the condition of many falls short of such extremity at present: whether their condition will hereafter approach such extremity is a question which may be reconsidered a few weeks hence; all I say is that they are not yet in absolute need; they are at present in good condition; if hereafter

it be found that physical depression is commencing, then, and not till then, will it be necessary for Government to interpose.

4. Again, such large numbers (equal to one-fourth of the total population) having been admitted to relief, the first shock of the calamity must have been fully, perhaps more than fully, resisted; therefore, it cannot be necessary to admit any more at present, save in exceptional cases of destitution, which might be certified by some competent and responsible officer.

5. Further, although the relief organization in these districts may not yet be complete, yet it is to be remembered that the ordinary civil organization is strong,—stronger indeed than in most parts of India. Each district is divided into talooks; in each talook there is a tahsildar and a deputy tahsildar, both responsible Native officials; under them there are two or three revenue inspectors, Native officials of lesser rank: all these are available for supervision of relief. Every three or four talooks are formed into a sub-district under either an assistant or a deputy collector. There is already a considerable engineering establishment of officers and overseers; besides these, several European military officers are immediately expected. In every village there is a headman (reddi) and an accountant (kurnam). These village officials are all available for supervision of relief. I recapitulate all this because, when extensive measures are adopted with many and large gangs, it is not safe to proceed unless a tolerably effective agency exists on the spot, which can immediately pick up and remedy any bad cases which may occur, and which may prevent any accident happening. It seems to me that there actually is such an agency in these districts. If all these establishments from top to bottom be thoroughly on the alert, as they doubtless are, it is almost impossible for any man, woman, or child to drift into danger of starvation without the case being found out and remedied.

6. Another mode of reducing or keeping down numbers is the well-known plan of enforcing taskwork: but with such large numbers of both sexes and of all sorts and conditions such enforcement is always difficult, and in a large proportion of the total number of cases is almost impossible. It must often happen that our officers try to enforce the task and hope to succeed; while in reality they fall short of success. We may be sure that although taskwork may be enforced upon many works, yet that in many other cases it never will, despite all our efforts, be really enforced; and that in all this category of cases, the labour will at the best be but very light.

7. Now the present rate of wages is fixed at two annas per diem for an adult, and proportionately lower for women and children. This rate is fixed upon the supposition that it will purchase one and a half pound of grain per diem,—a quantity which is deemed essential for a man while at work. There might indeed be a question whether life cannot be sustained with one pound of grain per diem, and whether Government is bound to do more than sustain life. This is a matter of opinion; and I myself think that one pound per diem might be sufficient to sustain life, and that the experiment ought to be tried. Possibly the gangs might not perceptibly fall off in condition. After a week or fortnight of experience it would be seen whether they so fall off, or not: if they were to seriously fall off, then the point could be considered. It is to be remembered that, when these poor people first came on relief, their condition was low, and they needed very full rations. Such rations have been allowed for some time, and the people are in very good case. A reduction might now be demanded in the interests of financial economy, and might be attempted for a time at least without danger; at all events the trial might be made for people at taskwork, and especially with those who are not really at taskwork, and who, though nominally at some sort of taskwork, are doing very light or nominal work. One pound of grain ought to be made to suffice. At the present prices, a rate of one anna and a half would purchase a pound of grain and would leave a small margin for condiments, vegetables and the like. It may be that Government would be willing to allow more than a pound a day of grain if its financial means permitted; but the demands of economy seem to require that at all events a trial should be made as to whether a pound a day might not be made to suffice for the one purpose which is admitted, namely, the staving off of danger by starvation.

8. I do not include in these suggestions the ordering of the enforcement of taskwork, because this has been already ordered, and will doubtless be carried out as far as possible; but looking to all the circumstances and to the scattered character of the work, I should fear that in a considerable proportion of the cases it never can be really carried out: that in many, perhaps more, cases it is not as yet exacted I feel sure.

9. The summary of my suggestions thus would be as follows:—

- (I.) To stop all fresh admissions to relief works in the Ceded Districts save under a certificate from an official of a grade not lower than a deputy tahsildar.
- (II.) To re-examine, as soon as possible, every gang, person by person, with a view to eliminating and discharging for the present everyone not in absolute need of State relief. By absolute need is meant danger of starvation if not supported by Government.
- (III.) To reduce the adult wage from two annas to one and a half anna per diem, and the rates for women and children proportionately. The grain wherever issued to be adjusted exactly according to this standard.
- (IV.) To impress upon the reddi and kurnam of every village the responsibility of bringing before the nearest revenue inspector every case of dangerous distress.
- (V.) These measures, if adopted, to be quite tentative, subject to reconsideration after one month subsequent to their introduction.

10. I am aware that the successful carrying out of such measures with such large numbers of persons is a difficult task, demanding the exercise of caution, patience, and resolution, combined with a humane sense of what is necessary for safety of life. If judiciously carried out, they will produce financial economy without endangering safety. If injudicious proceedings,

however, were to be taken, then some accident might occur to life. I believe that the authorities in these three districts, if well instructed, would be able to carry out these measures successfully. At all events, I think that an effort ought to be made and a trial ought to be had.

11. Seeing that the grain trade, which was slack at first, has set in with activity both on the railway and inland from the railway stations into the interior, there can be no need to pay the relief labourers in grain, their wages will enable them to buy grain. The grain wage only becomes necessary when there is reason to fear that the grain is so deficient that it cannot be got for money. I would therefore deprecate any payments in grain, and any further purchases of grain by Government. Any operations of this nature by Government would be likely to discourage private trade. Rather than send grain to workpeople, I would prefer, if possible, to bring workpeople to the grain and employ them on large and fully supervised works near to well supplied markets. It may be advisable to despatch a limited quantity of the grain already purchased by Government to certain places distant 60 miles and upwards from the railway, for the supply of which private trade may not prove sufficient. This seems the best way of disposing of the grain which has been purchased. The remainder of the grain already purchased might be kept in reserve at Madras. But within such a radius of 60 miles, I think it would be better to avoid storing Government grain.

No. VIII.—MEMORANDUM on the Condition and Prospects of RELIEF AFFAIRS in the BELLARY DISTRICT, as ascertained at Sir Richard Temple's Conferences with the Local Officers on the 17th and 18th January 1877.

Among the officers and gentlemen who met Sir Richard Temple at Bellary were—

Mr. G. Thornhill, first member of the Revenue Board, who kindly accompanied Sir Richard from Gooty.

Mr. G. H. Master, Collector of Bellary for the last seven years.

Mr. Cox, C.S., who joined the district for relief work a few days previous only.

Major Hicks, who for some years has been District Superintendent of Police in Bellary, and who is now managing the transport of Government grain from the railway to the interior.

Mr. Legatt, the Executive Engineer, and several assistants and subordinates, whom Sir Richard met on the different relief works which he visited.

Messrs. Harvey and Sabapathy, a Bellary firm which deals in country produce.

V. Venkata Chulum, Deputy Collector of Hospett, who has charge of the three western talooks of Hospett, Haveinhudgally, and Harpinhally.

Moorgeshum Modeliar, Deputy Collector, now living at Bellary, but in charge of relief work in the south-western talooks of Rayadroog and Kudligi.

Mr. Agar, in relief charge of the head-quarter talook.

The Deputy Collector at head-quarter and other head-quarter officials all furnished information. But Mr. Ross, C.S., the assistant in charge of the remote southern talooks of Pennakonda, Indapur, and Madkasira, was at his post in Pennakonda, and therefore some of the facts regarding the condition of that part of the district remain to be cleared up.

2. The district of Bellary has an area of 11,007 square miles, and a population of 1,668,006 persons. It is divided into 15 talooks (revenue sub-divisions). The food-crop area of Bellary as returned for the last ordinary year (1875) was 2,660,000 acres. The proportion ordinarily sown with each of the great food staples and the estimated yield of the present may be thus shown:—

	Area of Crop Acres sown in the Year 1875.	Estimated Yield of the current Year's Crop, on an average for the whole District.
Cholum (jowaree millet) - - -	1,240,000	Varies from nothing to three annas in different talooks, but cannot exceed half an anna on an average for the whole district; that is to say, is not more than $\frac{1}{2}$ of an ordinary yield.
Ragi (small millet) - - -	101,100	
Cumboo (small millet) - - -	230,000	
Other small millets, such as korra, &c. -	560,000	
Rice - - -	185,000	2 annas, or $\frac{1}{8}$ of an ordinary yield.
Total - - -	say under a one-anna crop for the whole district.	

The yield, such as it is, has been secured only on the lands watered from wells and tanks, or by the channels led from the Tungabadra River. In the Hospett Talook, for instance, some 25 villages along this river have got very fair rice and cholum (millet) crops. But the area returned as "under wet crop" for the whole district was only 115,000 acres in an ordinary year, so the irrigated area bears only a very small proportion to the whole food crop land of the district. The district tanks are said to be mostly dry, as the rainfall of this year did not suffice to fill them. Of the dry (unirrigated) crop, not one quarter of the usual area was even sown, and on the area sown only about one-eighth of the ordinary yield was secured. The cotton crop, covering about 340,000 acres in ordinary years, has failed entirely. The plants ought at this season to be green, as the fibre is picked in March and April; but at present there is, it is said, no cotton to be seen in any part of the district. From Gooty to Bellary, and for several miles round Bellary itself, Sir Richard saw that the country was absolutely bare of all crop or stubble, and that there was no sign of any fodder or grass. The local officers say that the condition of the country is the same all over the black soil talooks (*i.e.*, more than one-third the district); over the red soil

talooks some fodder has been produced, but there has been no appreciable food-crop except on the areas within the influence of the Tungabadra River, or on small patches of land near wells. The loss of harvest, subject to exceptions above noted, has been utter all over the district.

3. The rainfall of the Bellary district is never large, and the rain of an ordinary year ranges from 22 inches in the western and south-western, to 15 inches in the central and eastern talooks. The district lies on the edge of the area of each of the two south-west (or August) and north-east (or October) monsoons, and it often gets a short rainfall under one of them. The rainfall of the past six months has ranged from $2\frac{1}{2}$ to 5 inches in different parts of the district. Bellary has suffered from more or less severe famines in the years 1751, 1793, 1803, 1833, 1854, and 1866.

4. The harvests of the preceding year (1875) were poor, not exceeding eight annas, or half an ordinary good yield for the whole district. The rainfall of that year was short. In the year 1874 there was a very heavy downpour, which greatly injured the cholom crop, so that the total yield of the district for that year also is not estimated at above 10 annas, or $\frac{5}{8}$ ths of a good yield. In good years the Bellary district is said to produce sufficient food for the support of its population; though a certain quantity of rice, wheat, and other food grains is usually imported from the Nizam's territory and elsewhere for the consumption of the richer classes and the urban population. If seasonable rain falls in June next, the first food crop of next season (yellow cholom) will come into the market by the end of July.

5. The condition of the Bellary peasantry and labouring classes is said to be tolerably good in ordinary years; they amassed a good deal of wealth during the days of dear cotton. Many of the ryots are of course in debt, but on the whole the Collector does not consider the people of Bellary to be in an exceptionally poor or distressed condition. The number of ryots who pay revenue direct to Government is 143,000, of whom about 80,000 have holdings of 10 acres and under. The ryots and petty privileged holders (inamdars) with their families must amount to over 900,000 persons. The classes who live by daily labour are estimated to amount to one-fourth of the district population.

6. The grain markets of Bellary town and most of the markets of the interior are now fairly well supplied with cholom and rice. At some of the petty towns and villages of the interior the local supply has on occasions been insufficient for the wants of the relief labourers. Nearly all the grain exposed for sale in the bazars is said to be railway-borne grain, from Central India and from Madras. A small quantity of grain from the Malabar coast finds its way by carts into the western talooks of the Bellary district.

7. The present prices of grain at Bellary as compared with ordinary prices are—

	Prices in January 1877.		Average price for previous six years in the month of December.
	First week.	Second week.	
Cholom - - - -	8 seers per rupee.	8 seers per rupee.	23 seers per rupee.
Rice - - - -	$6\frac{1}{2}$ "	$6\frac{1}{2}$ "	12 "
Ragi - - - -	$8\frac{1}{2}$ "	$8\frac{1}{2}$ "	34 "
Cumboo - - - -	Not now obtainable at all.		{ 25 "
Korra - - - -			{ 35 "

In the interior of the district, where markets are mostly supplied with grain imported through Bellary, prices range from $\frac{1}{2}$ to one seer per rupee dearer. Some weeks ago prices at Bellary were from one to two seers per rupee dearer than they now are. Grain became cheaper partly in consequence of private importations and partly (so the native officials and traders say) because Government imported grain itself, and no one knew how much Government grain was coming, or how it was to be used. There are abundance of good carts in the district, and sufficient grain can certainly be carried from the railway into the interior, if only the cattle do not die or migrate. But unless a constant stream of traffic be maintained, and the cartmen are enabled to buy food for their bullocks, there is risk that the supply of carts and draught cattle may fail.

8. The local officers have not yet received final orders as to the quantity of grain Government is going to buy and send into the distressed districts. So far as can be ascertained on the spot matters stand thus. Government have, it is believed, arranged for the purchase of 30,000 tons of coast (and Calcutta) rice through a Madras firm (Messrs. Arbuthnot and Company) as brokers. The Collectors also have authority (so it is said) to lay in supplies through the local traders. No limit has as yet been put on Collectors' action in this respect, save that they are to consult the local agent of the Government broker. It is not known precisely what amounts of grain Collectors have thus purchased or arranged for, but the total probably does not exceed some few thousand tons altogether. The Government grain bought at Madras is being stored by Messrs. Arbuthnot and Company at railway stations up-country, and is there handed over to Major Hicks (Government grain officer) for transport into the interior. Major Hicks has already concluded contracts at comparatively moderate rates (five annas and six annas per ton per mile) for carrying 8,700 tons of Government grain per month for four months to the depôts marginally noted. He has received from local officers indents for the despatch of a further quantity of about 9,000 tons

Bellary	- Pennakonda	- 1,000 tons a month.
Kurnool	- Kurnool	- 2,000 " "
	Koilkantla	- 800 " "
	Nassam	- 300 " "
	Peapally	- 858 " "
	Nandial	- 850 " "
	Cumbum	- 300 " "
	Cagulumaree	- 400 " "
Cuddapah	- Kadiri	- 600 " "
	Royachoti	- 400 " "
	Budmail	- 300 " "
	Jummulmadpi	- 200 " "
	Pradator	- 200 " "
	Door	- 200 " "
	Pulivendla	- 300 " "
Total	-	8,705

per month. He anticipates that Government grain will be also required for remote tracts round the dépôts noted in the margin; and he estimates that the indents of the local officers will not be fully satisfied under a total of about 20,000 tons a month. This quantity, it may be observed, would cost about 22 lakhs (220,000*l.*) a month, and would furnish food one pound per diem) to one and a half millions for one month; so that this supply, if sanctioned, would feed $\frac{3}{4}$ ths of the total population of the three famine districts of Bellary, Cuddapah, and Kurnool, and it would feed nearly two-thirds of the total population of the tracts remote from the railway, which these dépôts are intended to serve.

9. Some of the local traders of Bellary represent that the interposition of Government in the grain trade has had the effect of deterring local traders from importing as they would otherwise have done, and as they at first were doing. Government having entered as a buyer into the markets of the coast, prices there have grown much dearer. At the same time, while there is so much doubt how much Government will import and how it will use its importations, prices have fluctuated very greatly in the local markets; and the grain trade has become a risky business. They cite, as an instance of the effect of these fluctuations, that a few weeks ago prices went down at Bellary and up at Madras; so much so that private grain (previously imported from the east coast and from Central India) was being despatched from Bellary to Cuddapah at the rate of 20 waggons a day. Prices at Bellary have now stiffened somewhat, and this strange export has ceased. The traders urge that if Government wants grain for its relief labourers, local dealers are ready to put it down at Bellary, and they suggest that cholum (jowari) be ordered from the north instead of rice from the south, for cholum is 15 per cent. cheaper than rice, and is moreover the ordinary food of the people. They point out that in the autumn this plan of supplying the Government need answered well both directly and indirectly. The traders vied with each other, and supplied Government with rice (about 14 or 15 transactions aggregating 1,50,000 maunds) at rates which began at Rs. 10½ per bag of 164 lbs. and came down, by dint of competition, to Rs. 8½ per bag. At the same time the local trade was kept brisk and was free from the fear of competition from the Government.

10. The facts and arguments urged by certain of the local traders on Sir Richard Temple are abstracted as above. At the same time it should be stated that the petty native dealers did not seem to deprecate or to complain of Government action. And the larger Bellary traders expressed a fear that private trade might fail to carry sufficient supplies into the remoter talooks of the south and west. It was not, however, clear why the lesser traders in the interior should abstain from the grain trade, provided the fear of Government competition did not deter them.

11. It is said that, generally speaking, stocks are small in consequence of the shortness of the harvests of 1875. Still it is believed that small stocks do exist in the possession of many of the

* So the Bellary people say. Sir Richard Temple has not yet been able to verify the facts of the Mysore case on the spot, though he hopes to do so. Recently, when he passed through the south of the Nizam's territory, in two directions, he found that the failure of crops there was not by any means so general or so severe as the civil authorities of the Bombay Deccan had been led to fear.

ryots; and that stocks are larger in the eastern than in the southern talooks. The latter are accustomed to draw supplies of "ragi" millet from Mysore, which country can at present barely* support itself. Some of the native traders said that the local stocks now in hand would barely suffice for seed grain which after previous famines had been obtained from the Nizam's

country, whence supplies this year would be short.

12. The population of the affected tracts of Bellary are being mainly relieved by wages paid for presence on relief works. Hitherto no one who offered himself or herself for employment has been refused. The relief works consist mainly of roads on which the people are engaged in making embankments and cuttings, in breaking, stacking, and spreading road metal. Some few thousands are employed on excavating or clearing tanks, in deepening wells, and in other petty village works.

13. The number of people returned as employed on the works is enormous, and has been rising at the rate of about 30,000 a week. The numbers of people now on the works is as follows:—

Name of Talook.	Total Number on the Works on the 15th January 1877.	Proportion of Relief Labourers to the Total Population.
Bellary - - - - -	55,219	31 per cent.
Hospett - - - - -	16,669	18 "
Kudligi - - - - -	22,405	24 "
Havanhudgully - - - - -	17,854	20 "
Hurpanhully - - - - -	7,912	9 "
Alur - - - - -	31,186	32 "
Adoni - - - - -	63,931	31 "
Gooty - - - - -	23,997	16 "
Tadpatri - - - - -	11,999	10 "
Rayadrug - - - - -	8,071	9 "
Anantapur - - - - -	22,588	21 "
Dhurmavaram - - - - -	24,548	20 "
Pennakonda - - - - -	10,551	11 "
Makaksira - - - - -	23,375	30 "
Hindapore - - - - -	42,080	46 "
Total - - - - -	382,385	or 23 per cent.

These are the figures as given by the Bellary Collectorate Office, talook by talook. But the total number on relief works in Bellary, according to a statement published in the Madras newspapers of the 18th current, is 446,100, or equal to 26 per cent. on the total population of the district. These large figures did not reach Sir Richard Temple till he had left Bellary, so the discrepancy was not explained. On the face of the talook figures no explanation can be offered of the great variations in the percentage of the population admitted to relief wages in the different talooks. It is said the emigrants from the distressed tracts of Mysore swell the numbers

* See paragraph 21 below.

in the Madaksira and Hindapore talooks. Other* facts would seem to show that the local authorities in the south of the district do not exercise sufficient discrimination in admitting claimants to relief. It may be noted that the highest number of labourers in receipt of relief wages during the Bellary famine of 1866 never exceeded 22,000.

14. The civil authorities consider that a large proportion of the relief labourers are ryots who hold land from Government. They think also that a proportion of these people could for a time, at any rate, support themselves without relief wages. The physical condition of the labourers (men, women, and children) is said to be at present good. Sir Richard Temple saw several thousands of them on works round Bellary, and he inspected them closely. It seemed to him that these relief labourers, as a rule, looked a comfortable well-clad body of peasantry. The clothes of nearly all, men and women, looked to be considerably better than one is accustomed to see on the backs of labouring men and women in other parts of India. Many of the labourers were provided with excellent new blankets of Bellary make. It was said that in the Bellary and Adoni talooks a good many people, who did not need Government relief, have been turned off the works. In this way the numbers, which at one time were 62,000 in Bellary Talook, have been brought down to 55,000.

15. Some of the subordinate officials estimated that the total number on the relief works in Bellary might eventually reach 900,000. Mr. Master, the Collector, however, on a review of the past history of the scarcity, hopes that there will be no great increase in the number of relief labourers after the month of January. He anticipates that by strictly enforcing taskwork, and by turning off the workpeople who apparently could live without relief wages, he may be able to reduce the present great numbers. He would be prepared to stop all new admissions to the relief works, for a fortnight at any rate, as an experiment.

16. On the works in the Bellary Talook taskwork is to some extent exacted from the relief labourers; and it has been found possible to make the taskwork on stone-breaking rigorous in this talook. But in outlying talooks taskwork is not exacted; and the staff of engineering subordinates is insufficient to control the enormous number of labourers. The works are under the supervision of the local civil officers. Rules have been issued by the Collector for enforcing discipline among and paying the labourers. The names of all the labourers are entered on registers by subordinate officials.

17. The rate of relief wages in the early days of the works† was one and a half anna a day for adult males. But they were afterwards raised to two annas a day when the prices rose. At present in the Bellary Talook relief wages are paid in grain, at the rate of a little over two pounds of rice per diem. Outside the Bellary Talook relief wages are still paid in cash. These are the rates for adult males, and the relief wages for women and children are proportionately lower.

† Relief works began in the western taluks as far back as July.

18. The total expenditure on relief works in Bellary, from the commencement of operations to the beginning of January, was 22 lakhs (220,000%), and the present expenditure on relief wages only is at the rate of 14 lakhs (140,000%) per mensem.

19. Relief labourers are not at present employed on irrigation works. Proposals were made for constructing a new canal (for which plans and estimates were prepared some time ago) from the Tungabudra with relief labour, but the relief labourers could perform only a portion of the work; the canal probably would not be remunerative, and so it has not been considered suitable to undertake this canal as a relief work. The local officer of Hospett suggests that some of the relief labour be employed to reconstruct the Tungabudra anicuts and channels which are out of repair, but the professional agency is not strong enough to prepare schemes of this kind, and relief labourers are put upon works on which some labour can be done without professional preparation.

20. The numbers of people in receipt of gratuitous relief at the public expense is already 45,365, of whom 18,686 are in the single talook of Hindapore. It is said that some of these people have come across from the Mysore country in family parties and in a depressed condition. But it also appears that seven-ninths of the Hindapore paupers are children of people who are in receipt of relief wages on the works. The Collector considers that all such children should be supported by their parents, and no doubt these large numbers at Hindapore will be shortly reduced. Some 5,000 persons receive cooked food daily at the Bellary relief house, which is administered at the cost of private funds. Persons are admissible to charitable relief on the certificate of the tahsildar at the head-quarters of each talook; but practically discretion in the matter is delegated to the tahsildar's subordinates, and at outlying relief houses to relief superintendents on Rs. 20 a month. Village headmen (reddis) are authorised to relieve casual sufferers, and then to forward them to the nearest constituted relief house; and the "reddi" sends in his bill periodically to the tahsildar. At the relief houses the allowance is one pound of cooked food for adults, and half a pound for children; the recipients come to the relief house in the afternoon, get their food, and go home.

21. The condition of the cattle in Bellary is critical. Over a great part of the district there is no fodder at all. The Native officials and Native traders estimate that from one-fifth to one-

fourth of the cattle have died already; and they anticipate that more than one-half must die before June, unless heavy January showers fall. It was estimated that four-fifths of the cattle in the district died during the famine of 1833. European and Native officials substantiate the statements (previously published in the newspapers), that ryots formerly well-to-do have sold bullocks in the Bellary market at one rupee a head, or for eight seers of cholum. Some of the cattle from the eastern talooks have been driven to the Kurnool hills; from Western Bellary some of the cattle have been taken to the Western Ghât pastures; while the hills of the Soondoor chiefship (in Bellary) afford some pasture. Attempts are being made to employ relief labourers in convesting prickly pear (cactus), of which there is abundance in Central Bellary, cutting into fodder by separating off the thorns. In Bellary town these attempts are succeeding on a small scale, but they have yet to be extended into the interior of the district.

22. The supply of drinking water has not run short as yet, though many of the tanks are quite dry. Wells are being deepened by relief labour in the villages. Still it is feared that, later in the year, there will be scarcity of water in some villages. It is not clear that anything else can be done to remedy the difficulty.

23. It is expected that from one-half to three-quarters of the land revenue (that is 16 out of 23 lakhs) will have to be suspended. And it is feared that after two years of short crops and one year of absolute failure, the Government may be compelled eventually to remit a large proportion of the suspended land revenue demand. It is urged that if a large number of the cattle die, the power of the people to pay up the suspended land revenue demanded will be greatly crippled. Besides the suspension of land revenue, one-half of the abkaree (liquor excise) revenue demand from the contractors has been suspended in Bellary.

Cuddapah, the 19th January 1877.

C. BERNARD,
On special duty.

NO. IX.—MINUTE by SIR RICHARD TEMPLE, dated 20th January 1877.

In forwarding the three memoranda of facts ascertained on the spot regarding the famine in the districts of Kurnool, Bellary, and Cuddapah, I have to record the following observations:

KURNOOL DISTRICT.

2. There is, unhappily, no doubt as to the danger which threatens the district of Kurnool, and which would have broken ere this had relief operations not been commenced. There is also no doubt that these operations are sustaining the people in good condition. Consequently, as regards mortality from starvation or any dangerous degree of distress, there is no apprehension whatever. The local officers are extremely anxious to do their work well, according to the instructions they have received, and to save the people from danger. So far well.

3. On the other hand, the relief operations must have passed out of hand, and have got beyond contról locally, previous to the arrival of the present Collector, Mr. Davidson, about a fortnight ago, he having been urgently despatched thither by the Government of Madras. Within this brief period he is doing all he can to bring affairs into order, but they have arrived at such a stage as to demand further consideration and further instructions from superior authority. It seems to me that, on arriving here, he must have found the operations being conducted in a manner calculated to cause a heavy drain upon the Treasury and to render the people too dependent upon the State.

4. The gravity of the case is in this wise: out of a population of 917,000 souls, there are reported to be 330,000 on relief works in the first fortnight of January, having gradually risen to the great number during December. There are some thousands on charitable relief from the State. Thus at this very early period, namely, the beginning of January, more than one-third of the total population have been allowed to be fed by the State. That such a proportion should come upon the State during the worst season, namely, the hot weather, might, under the circumstances of the district, have been anticipated, though this proportion even at that season would be full. But that such a proportion should at this early period come upon the Government is a circumstance not heretofore known and transcending the experience of former famines in India. Looking to that experience, and allowing also for the poverty and depression of the people, admitting further that some considerable relief is even now called for, yet I cannot believe that the extreme degree of relief is absolutely necessary at this early period. Even now there is a tendency to increase, and at this rate of progress, if it be unchecked, ere long half the population will be in receipt of State support. And if additional precautions be not taken, the process might go on until nearly the whole population were involved in State charity. Although the State may be called upon to save life from starvation, it surely need not be called upon to undertake such a task as that above described. At present the population consists of a peasantry with very small holdings of land. Of these already a large number are upon relief works. There seems to be no reason why larger and larger numbers from the same class should not apply for employment; and if they do, they will get it under existing orders. There is no preliminary check whatever for testing whether they are in absolute need or not. The fact of such men applying at all does indeed indicate that they are in some need; the question, however, is otherwise: Are they in such extreme need as to require State support?

5. The following table of percentages shows that in some talooks, or component parts of the district, the numbers on relief are excessive, while in other talooks they are comparatively moderate. There are not, so far as I can learn, local circumstances to account for these differences, which must be in part attributed to variations in administration; either the people have got the

idea that they are to be fully fed at any cost, or the local authorities are too lenient. The object should be to reduce the proportions in some talooks to the level of the proportions in other talooks :—

Talooks.

Ramalkota	has 49 per cent.	Nandial	has 46 per cent.	} of its total population on relief works.
Pattikonda	„ 21 „	Sirwell	„ 36 „	
Koilkantla	„ 45 „	Cumbum	„ 44 „	
Nundikothkoor	„ 27 „	Markapore	„ 19 „	

6. As a *prima facie* proof that these extreme measures in Kurnool can hardly be necessary, I would adduce the case of the Deccan districts of the Bombay Presidency which I have just visited. In the districts of Sholapur and Kaladgi, and half the districts of Ahmednagar and Poona, the loss of crops is as great as in Kurnool. Yet, in these several tracts, with a total population exceeding $2\frac{1}{2}$ millions, there were in the beginning of January about 200,000 relief labourers, as compared with 330,000 in Kurnool out of a population of 917,000. Thus proportionately the number of relief labourers, as compared with the population, is in Kurnool more than four times as great as in the Deccan. Perhaps in some respects the position of Kurnool may be more unfavourable than that of the Deccan; but I am unable to learn any such local variations between the one and the other as would justify Kurnool having four times as many relief labourers as the Deccan. Certainly it cannot be said that the relief labourers in the Deccan are too few under the circumstances. On the contrary, the people in the Deccan are being well sustained under their misfortunes, and the only question is whether the number of relief labourers even there might not be somewhat reduced. Thus I fail to perceive any escape from the argument which is brought to bear upon Kurnool from the analogy of the Deccan. Therefore it seems necessary that the new Collector of Kurnool should be instructed to immediately reconsider the situation in his district, with a view to reducing the present number of relief labourers and to prevent its being augmented.

7. Another question relates to the importation and issue of Government grain. Although it is impossible to know the amount of grain in stock, there is no reason to suppose that stocks are exceptionally low, or that there is any deviation from the custom, whereby in other places several months' supply of food is kept in hand. Private trade is tolerably active; there are plenty of unemployed carts in the district, which can be and are used for the conveyance of grain from the several railway stations into the interior. There is a fair prospect of large quantities of grain coming from the north as well as from the south. The grain merchants of Kurnool are importing 3,000 maunds daily into the city; they say, however, that their importations are diminishing, which diminution they seem to attribute to the importations of grain by the Government. They do not seem, indeed, to particularly object to such importations of grain by Government; they only assign it as a reason for themselves taking a less active part in the trade. Under the circumstances, the policy of importing grain on account of Government seems to require considerations. I mention this because it is understood that 5,000 tons of grain a month are ordered to be imported by Government from without for this district. Even if the maintenance of some reserve is necessary, still the policy of importing into the district at this early period may be open to question, because it may discourage trade, and might cause railway waggons and country carts to be taken up for Government, which might otherwise have been at the disposal of traders.

8. At all events, I would recommend that Government grain be not under any circumstances issued to relief labourers at present. It may, indeed, be necessary hereafter at some places to pay relief labourers in grain only, especially when the worst season approaches. But at present it is far better to pay in cash, because this causes a local demand for grain, which again induces the holders of stock to bring forward their supplies, and encourages traders to bring in grain from without. Experience in relief operations has conclusively proved this. So long as the labourers can purchase food with their cash wages, let them be paid in cash. They certainly can at present obtain grain for cash. When the cash wages shall no longer enable them to purchase grain (and that time is apparently still distant), then, and not till then, let them be paid in grain.

9. It may be necessary to store a certain amount of grain at Kurnool itself, for use in event of emergency arising in the eastern parts of the districts Kumbum, Nundial, Markapore. But I would explain this carefully to the traders, and assure them that not a bag of this store would be used so long as any grain were otherwise forthcoming. But I would not store any grain at any place between the railway and Kurnool, as these places are easily accessible to traders.

BELLARY DISTRICT.

10. As another proof that the numbers on relief in the Kurnool district must be too high, I would advert briefly to the Bellary district. There the failure of this year's harvest has been as utter as in Kurnool, with this difference, however, that in Kurnool last year's harvest was fairly good, whereas in Bellary it was bad last year and indifferent the year before that. In Bellary, therefore, there has been a gradually deepening scarcity. Now in Bellary the total number of those on relief amounts to 450,000, representing more than one-fourth of the total population of 1,600,000. By that analogy there ought to be less than one-fourth of the population on relief in Kurnool, instead of more than one-third, as there actually is.

11. In Bellary, however, as in Kurnool, I have carefully inspected the gangs of relief labourers, person by person, and have seen many who do not appear to be in absolute need. It is manifest, also, that not only have all the labouring classes been admitted to relief, but also a portion of the ryot classes, that is, peasant proprietors and men having a beneficiary interest in the land. One relief gang near Bellary, drawn up in line for inspection, consisted of peasant proprietors in one

line and their wives in another line. I cannot think that State charity need be dispensed to such people at this early period.

12. When the proportion of persons on relief to the whole population is compared in each talook, there are striking differences which cannot, I think, be fully accounted for, save by the supposition that in some talooks the relief is being too liberally administered. Thus—

<i>Talooks.</i>			
Bellary	has 31 per cent.	Tadpatri	has 10 per cent.
Hospett	" 18 "	Raydrug	" 9 "
Kudligi	" 24 "	Anantapore	" 21 "
Havunhugully	" 20 "	Dharmavaram	" 20 "
Harpunhully	" 9 "	Pennakonda	" 11 "
Alur	" 20 "	Madukasira	" 30 "
Adoni	" 31 "	Hindapore	" 46 "
Gooty	" 16 "		

} of its total population on relief works.

13. The number of those on charitable relief, about 45,000, seems extraordinarily high in Bellary; it requires immediate revision. It is partly, however, to be accounted for by the fact that here the children of persons earning relief wages on the works are admitted to gratuitous relief. This is not necessary, and should, I think, be stopped.

14. Those works which are under the supervision of the Public Works Department, employing above 150,000 persons on trunk roads and large tanks, are well supervised. I fear that over the rest of the 400,000 on relief works, say 250,000 who are on petty village works, the supervision is not yet complete.

15. The benefit to the Bellary district of the railway is striking during such a crisis as this. After successive failures of harvests the local stocks must be abnormally low (though, if all accounts be true, there are still more stocks remaining), but the local grain markets are all well supplied through importations by rail through private trade. The mart of Bellary itself receives the supplies from the distant districts, and then distributes them among the bazars in the interior. There may ultimately be some difficulty in supplying by trade the markets in the western and south-western parts of the district near the frontiers of Mysore and of the South Mahratta country, namely, the talooks of Hospett, Havindhugully, Harpunhully, and Pennakonda, and to these grain may have to be sent by Government. I am far from being sure of this, however, as opinions seem to differ on the point. But in all other parts of the district I would deprecate the storing of Government grain, as interfering with private trade.

16. And I would deprecate the issue of grain wages to relief labourers as not being called for by any existing deficiency of grain in the markets.

17. The prospect of preserving the cattle is more gloomy in Bellary than in any other district. Fortunately, however, the prickly pear is abundant, and many trials have proved that it answers as fodder. The ryots, indeed, have a prejudice on the point, which is known to be erroneous and ought to be overcome. The most earnest attention of the Collector might be drawn to the subject, as vitally affecting the preservation of the plough cattle; and relief labourers might be employed in preparing the plant for fodder, which is done by extracting the prickles.

18. The future increase of relief labourers in this district is a question on which opinions differ. The Collector, Mr. Master, hopes that it will not largely increase beyond the present total, but some of his subordinates think it will. Seeing that the increase has been so rapid of late, at a rate of 30,000 persons a week, I very much fear that the total will largely increase unless a check be applied.

CUDDAPAH DISTRICT.

19. This district is much more favourably situated than either Kurnool or Bellary. Though it has lost three-fourths of the crops of the year, still it has saved nearly one-fourth. There is some irrigation going on. There is something of a crop in the ground, which will be reaped in the spring. Out of a population of 1,350,000, there are 200,000 persons on relief, or one-eighth. Here, also, are some of those differences between the talooks, or component parts of the districts, in respect to the proportion of relief labourers to the population which indicate variations in the administration. In the south-western talooks (locally called the "plateau" talooks), the administration is apparently too liberal, the proportion of relief labourers to the population being too high to be satisfactorily accounted for. Thus—

<i>Talooks.</i>			
Cuddapah	has 6 per cent.	Muddanpally	has 16 per cent.
Roychoti	" 13 "	Kadiri	" 28 "
Pulumpett	" 5 "	Voilpard	" 19 "
Prodore	" 9 "	Siddhout	" 8 "
Janamadigu	" 13 "	Pulivendla	" 20 "
Boodrail	" 6 "		

} of its total population on relief works.

The management is stricter around the head-quarters of the district, under the eye of Mr. Price, the Collector. But even here I saw many persons receiving relief who seem to be as yet far from being in extremity. But I am under the impression that in the Muddanpally division of the district there is an excessive expenditure going on, and that reconsideration is urgently called for there. The best part of the cattle are said to be safe. The grain markets are well supplied. I would deprecate any payments being made in grain, and the storing of any grain save at a few distant localities beyond the reach of private trade.

20. In a separate minute I will offer such practical suggestions as occur to me in reference to all these considerations respecting the three districts.

RICHARD TEMPLE.

Telegram, dated 22nd January 1877.

From SIR R. TEMPLE, Madura, to SIR A. ARBUTHNOT, Calcutta.

Taskwork already ordered everywhere, but not fully enforced for want of staff. Relief moderate in most districts, except three, viz., Bellary, Kurnool, and Cuddapah, in which relief excessive and getting beyond control. For these I have recommended to Government of Madras that fresh admissions to works be stopped at present; that recipients of relief wages not in absolute need be discharged; that daily wages be reduced from two annas to one anna and half. These measures, if adopted, will save ten lakhs monthly by my estimate. I hope for support. The control of relief operations deficient in unity and concentration, and authority* are wanting in firmness. I must deal with multitudes of relief labourers. I have recommended to Government of Madras that special officer be appointed with full power to direct and control in Bellary, Kurnool, and Cuddapah.

Telegram, dated 20th January 1877.

From SIR R. TEMPLE, Vellore, to SIR A. ARBUTHNOT, Calcutta.

For North Arcot relief of distress is careful and cheap. Contrast remarkable with Cuddapah.

Telegram, dated 23rd January 1877.

From SIR R. TEMPLE, Tuticorin, to HONOURABLE T. C. HOPE, Calcutta.

Bisset reports block on Bombay line already being relieved. Much grain from the north now coming to Madras Presidency, but Madras line seems not able to take it all. I am pressing this on Madras authorities.

Telegram, dated 23rd January 1877.

From SIR R. TEMPLE, Madura, to SIR A. ARBUTHNOT, Calcutta.

Have submitted to Government of Bombay proposals like those sent to Madras, whereby 25 lakhs may be saved in Bombay expenditure.

Telegram, dated 23rd January 1877.

From SIR R. TEMPLE, Madura, to SIR A. ARBUTHNOT, Calcutta.

Large suspensions, land revenue, Madras, important to prevent any remissions being promised to people.

Telegram, dated 26th January 1877.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to SECRETARY, Madras.

Sir Richard Temple represents importance of not promising to the people remissions of land revenue, but only suspending the demand. We commend question to your notice in consultation with him.

Telegram, dated 18th January 1877.

From CHIEF SECRETARY, Bombay, to ADDITIONAL SECRETARY, Commerce, Calcutta.

Your telegram of the 16th instant. Instructions have been issued to the Collectors to make no further announcements as to the course Government will pursue respecting remissions of land revenue pending further orders. Government have to observe that considerable remissions have been granted on the principles laid down in their Resolution No. 6007 of the 21st October 1876, which was discussed in your letters No. 806 of the 3rd November, and No. 458 of the 30th November 1876, in which no objection was taken to the absolute remissions promised, which were in accordance with the established practice of the revenue system of this Presidency. Government propose replying to your telegram by post.

No. 338, dated Bombay Castle, 18th January 1877.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY, to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

With reference to my telegram of to-day's date, I am directed to state, for the information of the Government of India, that the several Collectors concerned in this Presidency have been directed to abstain, until further orders, from making any public announcement as to the course which Government will pursue in respect to granting remissions of land revenue, and to take no steps to enforce payment of any land revenue which may become due pending further instructions from Government.

2. I am directed to add that the Government will take an early opportunity of addressing the Government of India on the subject of their telegram of the 16th to the Public Works Department.

* Unintelligible.

No. 337, dated Bombay Castle, 18th January 1877.

RESOLUTION by the Government of Bombay.

The several Collectors should be instructed to abstain, until further orders, from making any public announcement as to the course which the Government will pursue in respect to granting remissions of land-revenue. No steps should be taken to enforce payment of any land revenue which may become due, pending further instructions from Government.

No. 57, dated 16th January 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

The Government of Bombay, in their resolution in the Public Works Department, dated the 4th November last, authorised the Collectors of distressed districts to commence certain of the relief works comprised in the programme sanctioned by Government Resolution No. 6152, of the 27th October, by requisition to the executive engineer, certifying that the works were absolutely necessary to afford relief.

2. The objections to this important delegation of power came under the observation of the Government of India in the case of certain works which were commenced by the Collectors, notwithstanding that they came within the suspensory orders which had been issued; and it was in consequence of this, suggested in paragraph 13 of my letter No. 421 of the 15th instant, that the Revenue Commissioners should be invested with the power of sanctioning or transferring grants within suitable limits.

3. Further illustrations of the irregularities which may arise, and the unnecessary expenditure which may be caused by the continuance of these powers in the hands of Collectors, are afforded by the resolutions of the Bombay Government of the 8th and 9th January.

4. His Excellency the Governor-General in Council is of opinion that, whatever good grounds may have existed for this delegation of power in November last, when the scope of the famine was uncertain, and small works were alone authorised for relief, the objections to it at the present stage are considerable, and I am therefore to request that his Excellency the Governor in Council will take steps for its withdrawal.

No. 1T., dated Delhi Camp, 20th December 1876.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY.

I have had the honour to receive your letter No. 260 C.W.—1013, dated 9th instant, and am directed to express the regret of the President in Council that symptoms of distress should have made their appearance in four talukas of the Colaba and Rutnagherry districts.

2. As these districts are throughout contiguous to the sea, and are provided with numerous creeks and landing places, it may be expected that an ample supply of the cheaper kinds of grain will ere long be attracted in the ordinary course of trade, and tend to reduce prices to a less abnormal level. As, moreover, the supply of grain, which, it is stated, has for some weeks past been leaving for the Deccan, will have yielded to its owners a money return at extraordinarily high rates, the resources of certain classes of the population will be better able to meet the strain of higher prices, and to continue to afford to the lowest sections any employment and means of earning their bread which the latter may have derived from them in ordinary years.

3. There are therefore some grounds for hope that the anticipations of famine entertained by the Collectors of these two districts may not be altogether realised.

4. At the same time some limited extent of relief works appear to be necessary, and the President in Council approves of the road works which his Excellency in Council has sanctioned. Should any further relief be necessary, it should be given exclusively in the form of road clearances or other small works distributed over the talukas affected, and avoiding projects which are large or unsuited for relief purposes, such as the Mahad waterworks or the Gandhari bridge, which the Government of Bombay have already very properly disallowed.

5. With reference to the expected immigration of 8,000 distressed persons from the Habshee's territory, I am directed to state that the President in Council cannot recognise in this, or any other instance, an obligation to provide extensive relief to the subjects of a Foreign State, and that all political officers should receive instructions, where such states are under British management, to organize, and where they are not, to urge the durbars to organize measures of relief sufficient to meet the wants of whatever distressed population they contain.

6. Regarding the district of Kanara, it is observed that no failure of crops is believed to have taken place, and that relief works are started solely for the benefit of refugees from other districts. A few works with that object were probably indispensable, but as they are very likely to be taken advantage of by inhabitants of Kanara not really in distress, the President in Council trusts that the utmost vigilance will be used to confine them to foreigners, and that every encouragement will be afforded to the latter to return to their homes whenever in a condition to do so. Instructions should also be issued to all Collectors in distressed districts to check emigration of all persons not taking their cattle to known better pastures, by all means in their power, the most effective of which, it is scarcely necessary to say, is the provision of adequate relief works for them near home.

Local. No. 22 C. W.—31 of 1877.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY to the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

II.—Civil Works.

Public Works Department, Bombay, 8th January 1877.

I am directed to acknowledge the receipt of your letter No. 1 T., of the 20th December last, relative to the relief of distress in the Colaba, Ratnagiri, and Kanara districts, and to state that, as regards the two former, his Excellency the Governor in Council will carefully act on the instructions to give relief in the form of small works, so long as the extent of the demand for it can be met by such means.

2. His Excellency in Council feels himself somewhat embarrassed by the announcement contained in the fifth paragraph of your letter, that the President in Council cannot recognise an obligation in any instance to provide extensive relief to the subjects of a foreign state. That it is the duty of such states to afford relief to their subjects to the extent of their means cannot be denied, it is also clearly the duty of their political officers to urge them to do so; and the political officers employed under this Government are using their best endeavours to this end under the orders conveyed to them in paragraphs 11 and 12 of Government resolution by this Government, No. 267 C. W.—1032, of the 13th December 1876, a copy of which is attached. But if this Government is to act on the belief that they will be held responsible if any person be permitted to die from starvation, where the death could be prevented by action on the part of this Government, after the very prominent assertion of the paramount authority of the British Government which has recently taken place, this Government apprehend that their conduct would be seriously called in question if they were to refuse relief to people of a so-called foreign state who had been driven by the shortcomings of their ruler to take refuge in British territory.

3. Moreover, it would be almost impracticable, on a sudden emergency, to ascertain exactly who were our own subjects and who were foreigners. Our own villages and those of foreign states are, in some cases, considerably intermingled; and it should not be forgotten that when the pressure of distress began to be felt the people of Sholapur crowded into the Nizam's territory, and very probably, if the people of Khandesh are subjected to pressure in the course of one or two months, many will pass into Holkar's territory.

4. His Excellency in Council, therefore, takes the liberty of inviting a reconsideration of these orders.

5. The Collector of Kanara will be instructed to use his best endeavours to restrict employment on relief works to those who are absolutely in need of it. In so doing he will be conforming to the efforts already made by this Government to prevent the relief works from becoming too attractive.

No. 90, dated 22nd January 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY, P. W. Dept.

In reply to your letter, No. 22 C. W.—31, of 8th instant, I am directed to state that his Excellency the Governor-General in Council sees no ground for modifying the general rule laid down in paragraph 5 of the letter from this Department, No. 1 T., of 20th December, that the Government of India is under no obligation to provide extensive relief to the subjects of a foreign state, and that measures should be taken through the political officers to ensure adequate relief works being organized by the Government of any Native state affected by scarcity.

2. This rule was elicited by the fact that the Collectors of Colaba and Rutnagherry, in paragraph 5 of their joint report, dated November 19th, included in their calculations of relief required the maintenance of 8,000 subjects of the Habshee State from early in January till the end of June, and that no objection was taken to this item by the Bombay Government.

3. As the rule expressly refers to *extensive* relief, it would not preclude the grant of temporary relief in isolated cases, whether of individuals whose nationality was not at first recognised, or of bodies of foreigners suddenly at our works in a state of destitution needing immediate relief. But his Excellency the Governor-General in Council considers that it would be the duty of the officers in charge of the works, whether in the one case or the other, to communicate with the political officer of the Native state whose subjects the immigrants were, with the view to their transfer to relief works in their own country at the earliest practicable date.

4. The rule would not, it seems scarcely necessary to add, preclude the making of any special arrangements for mutual accommodation which might be deemed in the Political Department to be advisable between the British Government and Native states, such as the granting permission, either free or on payment of fees, for the grazing of cattle of such states in our reserves, or *vice versa*.

5. As regards the particular case of Jinjeera, his Excellency the Governor-General in Council is glad to learn from the accompaniment to your letter, No. 20 E.—85, of the 17th instant, that the Collectors have apparently been mistaken, as the political agent reports that there will be no scarcity of grain, and consequently no emigration.

Telegram, dated 23rd January 1877.

From SIR RICHARD TEMPLE, Tinnevely, to HONOURABLE T. C. HOPE, Calcutta.

Gazette with general instructions received by me yesterday and carefully perused. I think that at least in three districts—namely, Bellary, Kurnool, and Cuddapah—the relief operations are

in a considerable degree liable to all the objections described in paragraphs second and third of your letter to my address; also that with reference to paragraphs eighth, ninth, and tenth, the grain operations of the Local Government in Bellary, Kurnool, and Cuddapah have impeded and are still impeding private trade. These opinions have been already represented in previous minutes, but I am recording them again in a minute which will be immediately submitted to the Governments of India and of Madras. I have already proposed the several remedies which seem to me necessary. I have now added further proposal about concentrating labour on large works and closing petty works. I will urge all these views verbally on the Government of Madras when I reach Madras on Friday 26th. I further think that the objections in paragraphs second and third of your letter applicable, though in a much less degree, to the relief operations in the districts of Poona and Sholapur. This opinion is verbally embodied in my previous minute, but I am explicitly stating it again in a minute which will be submitted immediately to Governments of India and of Bombay.

Revenue, No. 21.

From SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 28th February 1877.

Para. 1. The Despatch of your Excellency in Council, dated 26th January, No. 5 of 1877, relative to the scarcity in Western and Southern India, has been considered by me in Council.

2. In Bombay, the prospect is, on the whole, somewhat more gloomy than in the preceding week, the number of persons on the relief works having increased and the prices of grain having risen in five districts.

3. In Madras there is no substantial improvement, but through the exertions of Sir R. Temple, the number of persons on the relief works has been diminished, and there is a prospect of a large monthly saving by the more careful control of famine expenditure.

4. The instructions to the Bombay Government not to delegate the important power of commencing relief works without the previous sanction of the Revenue Commissioner have my approval.

5. I also concur in the general principle with respect to the relief of the subjects of foreign states laid down by your Excellency.

6. It is clearly an obligation that devolves on Native states to provide, as far as possible, for those of their own population who are affected by the scarcity.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 6 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 2nd February 1877.

In continuation of our Despatch No. 5, of the 26th ultimo, on the subject of Minutes by Sir R. Temple, numbered XI., XIII., XIV., XVII. the scarcity in Western and Memoranda by Mr. C. Bernard, numbered X., XII., XV., XVI. Southern India, we beg leave Telegram from Sir R. Temple, dated 28th January 1877. to forward for your Lordship's information copies of the communications specified in the margin.

2. The memoranda summarise the information as to the condition of the districts of Cuddapah, North Arcot, Coimbatore, and Trichinopoly given to Sir R. Temple by the local officers, traders, and others with whom he was able to communicate. The minutes contain his own conclusions and suggestions; in minute No. XI. he recommends the appointment of one controlling officer on the spot for the three districts of Bellary, Kurnool, and Cuddapah. In No. XII. he contrasts the condition of affairs and extent of relief in Cuddapah with that of North Arcot, and suggests that the arrangements in the former should be reconsidered with a view to economy. In minute No. XIV. he combats the objections which he anticipates may be raised to the reduction in relief wages which was proposed in his minute No. VII. Finally, in minute No. XVII. he applies to the case of Bombay the suggestions for reduction in rate of wages

made for Madras, and computes that there may be a saving thereby of 23 lakhs of rupees on his previous estimate of 149 lakhs of relief expenditure for that Presidency. As regards this recommendation, it would appear from the Bombay progress statement No. X. of the 19th ultimo, that it has already been anticipated by the Local Government.

3. We have received with much satisfaction from Sir R. Temple a telegram dated Madras, the 28th ultimo, informing us that the Local Government accede substantially to all his proposals for economy, and that orders will, he believes, be issued at once. We have also received from the Madras Government an application for the services of 10 Bengal civil servants under various Governments and Administrations who have been specially selected by Sir R. Temple, and are taking steps to comply with it as far as may be practicable.

4. Regarding the condition of the distressed districts, we have no very material changes to report. In Madras, the number on the relief works has been reduced by about 50,000, and cholera prevails to a very great extent. In Bombay, there has been a very slight fall in prices in some districts, but the numbers on the relief works have again increased.

5. We are now beginning to receive the review and forecast reports by talukas Bombay, 47 out of 91 (excluding the which were due on the 15th ultimo. The number which have already reached us is shown in the margin.
Konkan and political agencies).
Madras, 6 out of 124.
Mysore, 49 out of 81.

We have the honour to be, &c.

(Signed) LYTTON, &c.

X.—MEMORANDUM ON the Condition and Prospects of Relief Affairs in the Cuddapah District, as ascertained at Sir Richard Temple's Conference with the Local Officers on the 19th January 1877.

At Cuddapah Sir Richard Temple had the advantage of the presence of—

Mr. G. Thornhill, First Member of the Revenue Board; and he conferred with—

Mr. Price, the Collector, who had joined the Cuddapah district a few days previously, after serving for several weeks as Relief Officer at the Bellary head-quarters;

Mr. Benson, Head Assistant Collector, who has been some few months in the district, and is in charge of three eastern taluks;

Mr. Maccartie, Assistant Collector, in charge of the head-quarter taluk;

Mr. Travers, Government grain agent at Cuddapah;

Ramasamy, Deputy Collector, who has been employed for five years at Cuddapah; besides the representative traders of Cuddapah, and a gentleman who has for the last six weeks been doing business at Cuddapah on behalf of a Madras firm.

2. The Cuddapah district comprises an area of 8,367 square miles, with a population of 1,351,194 persons, and it is divided into 11 taluks. It is traversed by the North-western Railway, of which a branch goes to Bellary. In physical characteristic the four taluks on the Mysore plateau, forming the sub-division of Maddanpally, differ considerably from the other seven taluks around Cuddapah itself. The rainfall of the year 1876 has ranged from 6 to 11 inches in the different taluks; and on the average has not exceeded 8 inches. The average rainfall of the district for the last eight years has been 31 inches, ranging from 21 to 36 inches in the different taluks. Both the June and the October rainfalls (S.E. and N.W. monsoons) were deficient. There has been excessive failure of both the autumn and winter crops all over the district, except in the taluks of Cuddapah, Prodatore, Boodrail, Sidhout, and Pullampet. In all of these taluks there has been a good deal of irrigation from the Toongabhadra Canal,* by channels from the Papagni, Pennair, and Cheyair rivers,

* The Irrigation Company's officers state that 22,000 acres in Cuddapah have taken canal water this year.

and from wells. Nearly all the tanks in the district are wholly dry, so that little crop has been saved by tank irrigation.

3. The chief food crops are—

				Area under crop in last ordinary year.
				Acres.
Cholam (jowari)	-	-	-	420,000
Cumboo (bajra)	-	-	-	348,000
Rice	-	-	-	126,000
Ragi†	-	-	-	94,000

The yield of the food crops of the present year is estimated at six annas (or nearly half an ordinary good crop) in the head-quarter taluk, four annas in four other taluks, and at only two or three annas in the bad taluks; and for the whole district the local officers estimate a yield of three annas, or about one-fifth of an ordinary crop all round. On the irrigated lands in the comparatively good taluks a considerable quantity of rice and ragi will be reaped within the next few weeks; and the prospect of this outturn has had some effect on Cuddapah prices. After the

† This staple is grown chiefly in the plateau taluks.

crops now in the ground shall have been reaped, the earliest harvest of next season will consist of the August rice and of the September cumbu (bajra). The harvest in the plateau taluks will be somewhat earlier than in taluks around Cuddapah.

4. Grain markets in the northern taluks are well supplied, chiefly with imported grain. Ragi is being brought in from Nellore and even from Calicut, as well as rice in great abundance from Madras. In a few marts of the plateau taluks there has been occasional shortness of supply; local stocks there are believed to be short, and it is said that the ryots there, when they saw their millet fields coming on well early in the season, sold off their stocks to the distressed population of Mysore. Large importations come every day into Cuddapah, and petty dealers from outlying marts fetch out supplies thence. Mr. St. Martin, who is now doing business at Cuddapah for a Madras firm, considers that the importations have now fully supplied all local demands. He could sell every bag of rice he imported at remunerative prices four weeks ago, whereas his rice now goes off but slowly, at prices 12 or 15 per cent. cheaper. Native dealers say that grain is not now coming in quite as briskly as before, because Government is sending up its own grain. There are plenty of carts in the district, and as yet draught cattle do full duty. The roads are good and easy, save towards Boodrail and Cumbum (in Kurnool), in which direction the routes are hilly and are heavy for cart traffic.

5. The Collectorate officials give the current (18th January) prices at—

	Present price.	Average price during month of December in ordinary years.
Rice - - - - -	7 seers	13 seers per rupee.
Cholam - - - - -	9½ "	24 " "
Ragi - - - - -	9½ "	25 " "

Prices were at one time quite 15 per cent. dearer, but they have now been falling for the last two or three weeks, partly because large importations have come in, and partly because there is hope of a considerable spring-crop yield off the irrigated lands. In the Produttore Taluk, through which the railway runs, prices are even cheaper than the above quotations. But in the remoter, and especially in the plateau, taluks, prices are from 10 to 20 per cent. dearer than Cuddapah rates. The native traders who waited upon Sir Richard Temple gave somewhat lower quotations for cholam, saying that some jowaree, which came into Cuddapah four days ago, was selling to-day at 10 seers per rupee for Jubbulpore grain and 9½ seers for Sholapore grain.

6. Government rice from Madras is being sent into Cuddapah by both the Northern and the South-western Railways. Mr. Travers, the Government grain agent at Cuddapah, has received from Messrs. Arbuthnot & Co., Government brokers, and sent off into the interior of the Cuddapah district, about 20,000 maunds, besides 60,000 maunds for the Cumbum Taluk of Kurnool. The plateau taluks are being supplied from the station of Goriatam on South-western Railway, and the Collector of North Arcot states that he has for weeks passed forwarded considerable quantities of Government grain to the depôts under the sub-divisional officer of Maddanpally, who has also made advances of Government money to local traders in order to induce them to bring up from the railway supplies for the local markets; but information is not obtainable at Cuddapah regarding the amount or the result of these advances.

7. Regarding the stocks in the hands of the people, accurate information does not exist. But it is known that the yield of food crops in the next preceding (1875-76) season was short, being estimated at an eight-anna, or half an ordinary crop; three lakhs were that year remitted out of a total demand of fourteen lakhs. The crop of 1874-75 in Cuddapah was on the whole good, notwithstanding the excessive rain at the end of the season. The general condition of the Cuddapah people in ordinary years is good; the Cuddapah manual calls the ryots a well-to-do set of men; and the local officers, European and Native, agree that the Cuddapah ryot, both on the plateau and below it, is ordinarily a man of some substance and lives in tolerable comfort. The local traders estimated that barely one-half of the ryots were much in debt. The labouring classes are said to be about one-fourth of the total population. Very many ryots are believed to hold some grain stocks in the inland taluks; but in the plateau taluks much of the local stores were exported before the recent failure of harvest declared itself, and so the stocks there are perhaps unusually low.

8. All persons who apply for Government assistance are employed upon relief works, which consist mainly of roads. Some few thousands are employed on tank-work, but roads are the main relief works, especially in the plateau taluks. The Collector has directed that no new road-work be undertaken, and that relief labourers be put upon the repairs of irrigation channels and of tanks, works which can be done without professional preliminaries. A large embankment is being thrown up along the Pennair River to protect the railway. The local officers cannot indicate any large work on which a considerable number of labourers could be concentrated. Some of the Cuddapah people are migrating for work to the East Coast Canal in the Nellore district, and such emigration is being encouraged.

9. The rate of relief wages is everywhere 2 annas a day for adult males. For some weeks the rate in the southern (plateau) sub-division was 2½ annas a day. On Saturday double wages are paid, a Sunday wage at full rates being presented to the workpeople. The Collector, Mr. Price, has found difficulty in preventing large extra numbers from coming to work on Saturday with a view to secure the free Sunday wage. In Bellary, Mr. Price was able to stop the issue of the weekly Sunday present. Relief wages in Boodrail are paid in grain. Wages for women and children are proportionately lower than those quoted above. Attempts are made to enforce taskwork, and a scale of work has been laid down. But practically the task is not rigorously enforced, as the supervising establishment is insufficient. About six lakhs of rupees have been spent on relief works up to the present time.

10. The number of people returned as present on relief works in each taluk, according to the latest (11th January) figures, is :—

	Total number on works.					
Roychoti -	-	-	17,068,	equal to 13	per cent. of the population of the taluk.	
Cuddapah -	-	-	9,953	" 6	"	"
Palumpet -	-	-	7,854	" 5	"	"
Produtore -	-	-	9,021	" 9	"	"
Jamamadigu -	-	-	14,082	" 13	"	"
Boodrail -	-	-	5,663	" 6	"	"
Maddanpally -	-	-	35,101	" 26	"	"
Kadiri -	-	-	39,074	" 28	"	"
Voilpard -	-	-	27,899	" 19	"	"
Sidhout -	-	-	6,180	" 8	"	"
Pulivendla -	-	-	22,591	" 20	"	"

Total - - 195,476, or
According to the latest
total furnished by the
Collector - - 204,000, equal to 15 per cent. of the population.

11. Relief works began in the plateau taluks towards the end of September, and at Cuddapah on the 18th October. When the people came on the works at first some of them were in a physically depressed condition, especially in Boodrail. But the relief labourers are well and strong. From one-fourth to one-third of the labourers are ryots or their families, but the majority are pariahs (labouring people of low caste). The great increase in the number of relief labourers occurred in the latter half of December; the numbers are now nearly stationary. The tahsildar of Cuddapah considers that perhaps one-eighth of the workpeople in his taluk could subsist, for a time at any rate, without relief wages. Sir Richard Temple visited gangs in two or three directions round Cuddapah, and he found the relief labourers for the most part stout and well clad. In one village, where a considerable breadth of irrigated crop was coming forward, he found a number of ryots with their wives in receipt of wages on a relief work close to their homes. The variation in the percentage of the population on relief works in the northern and southern taluks was attributed partly to the circumstance that the failure of crops was worst in the southern (or plateau) taluks, and partly to the comparatively less strict administration of relief under the Sub-Collector of Muddanpally.

12. No gratuitous relief is being given from State funds, save in the sub-division of Maddanpally, where 915 persons are receiving charitable relief, the cost of which is defrayed half from Government and half from private funds. About 1,500 persons (infirm, children, sick, and beggars) are being relieved daily in Cuddapah town from private subscriptions.

13. The cattle of the district have hitherto been kept alive with fodder from the canal banks, or with grass from the hills. Some are driven away to the pastures of the hills* within the district. On the whole, the cattle are much better off than in the Bellary district. The local officers expect that most of the valuable cattle, both plough and draught, will be kept alive one way or another.

14. There is apparently no present cause for fearing a failure of the water supply. But water may hereafter run short in the black soil taluks, but as yet no difficulty is experienced.

15. The collection of the land revenue is stayed for the present. Probably about $\frac{2}{3}$ of the district demand (14 lakhs) will have to be suspended, and eventually some portion of this may have to be remitted. One quarter of the abkari (liquor excise) revenue has been suspended in Cuddapah, as compared with one half in Bellary and Kurnool.

C. BERNARD,

Secretary to Sir R. Temple.

Vellore, the 20th January 1877.

XI.—MINUTE by SIR R. TEMPLE, dated 22nd January 1877.

In continuation of my minute of the 19th and the 20th January, describing the relief operations in the districts of Bellary, Kurnool, and Cuddapah, and suggesting certain measures of economy, I desire to submit, for the consideration of the Government of Madras, a suggestion respecting administrative control.

2. If measures of additional control are to be adopted, it is to be apprehended that local difficulties of various kinds will be adduced, and questions will be raised, which can only be settled by some officer with plenary power on the spot, if they are to be settled with the necessary promptitude and vigour. Further, with such very extensive operations of relief, spreading over so large an area, and affecting so many classes, it is difficult to secure that degree of uniformity of system which is necessary to be maintained, even after allowing for all local peculiarities, unless there is some authority immediately at hand to whom all the local officers must defer.

3. I would therefore suggest that some officer be thus appointed by Government to reside within these three districts for the present, and be vested with full power, subject immediately to the Government of Madras, to direct and control all the relief operations. I believe that this measure will be conducive to economy as well as efficiency.

RICHARD TEMPLE.

XII.—MEMORANDUM on the Condition and Prospects of Relief Affairs in the district of North Arcot, as ascertained by Sir Richard Temple at Conferences with the Local Officers on the 20th January.

Sir Richard Temple met in the North Arcot district—

Mr. Whiteside, the Collector.

Mr. Irvine, the Sub-Collector at Vellore, who has charge of the Vellore, Arcot, and Gudiatam taluks, and also of the Kangundy zemindari.

Mr. Austin, Head Assistant in charge of the Wallajah Taluk, and also of the great zemindaris of Karietnuggur and Kalastri.

Krishnaswamy Ayah, late Sheristadar, and at present Special Deputy Collector of North Arcot.

The North Arcot district comprises an area of 7,139 square miles, and a population of 2,015,278. It contains two considerable towns, Vellore and Wallajahpet, and it is traversed by a railway which passes across the whole district. It is divided into nine taluks, and it comprises, besides these taluks, 13 zemindari estates, some of which are very large. Two of its taluks, Punganur and Chendragiri, are situate upon the uplands of the Mysore plateau. The zemindari estates contain nearly one third of the whole population of the district.

2. The rainfall of the district was short last year, but this year it has failed; thus—

Average rainfall
of the Arcot district
for the year.

1874-75 -	-	-	-	-	50
1875-76 -	-	-	-	-	23
1876-77 -	-	-	-	-	16

While 16 inches is the average for the whole district, in some taluks the rainfall has been much smaller still. The yield of the harvests of 1874-75 was excellent; that of the year 1875-76 was short, being estimated at little more than eight annas, or one-half an ordinary good crop. The yield of the current year may be estimated to be a four-anna (or about quarter of an ordinary good) crop for the whole district. The outturn has varied greatly in the different taluks. The wet crops under tanks have failed altogether, as the tanks, great and small, were empty. The dry crops in the Gudiatam, Wandewash, and Poloor taluks were fairly good; there is a great deal of irrigation from wells in those taluks, and in the two great zemindaris of Karvetnagar and Kalastri,

* Muddenpilly, Voilpard. where the land is rich; in the two taluks on the Mysore plateau, near to and of the same character with the plateau taluks* of Cuddapah.

3. If distress should unhappily become general, the zemindars and their establishment will assist greatly in the administration of relief, excepting the few who are heavily in debt. The zemindar of Punganoor has already been of much help to the Collector, and has displayed much liberality. The ryots and landholders in the zemindaris are, generally speaking, well off. The total rental of the zemindaris is 14 lakhs, and they pay $4\frac{1}{4}$ lakhs revenue to Government. In their estates Government has no revenue establishments.

4. The markets of North Arcot, both in town and villages, are well supplied with food; private trade is remarkably active; carts and draught cattle are abundant; and the district roads are remarkably good. Up to about three weeks ago rice and ragi were being largely exported from the district; but then prices stiffened, the tide turned, and importations of rice began from Madras. During the last three or four days prices have fallen again somewhat in consequence of the large importations which took place, and the appearance of which drew forth the local stocks.

5. Current prices in markets near the railway are quoted at—

Ragi (small millet), $9\frac{1}{2}$ seers per rupee.

Rice, $7\frac{3}{4}$.

There is but little cholum to be had in the bazaars, and ragi is the ordinary food of the common people. In markets remote from the railway prices run about 5 to 8 per cent. dearer than the above quotations. The Collector has no doubt whatever that private trade will suffice to meet the wants of this district. He was asked how much Government grain his district would require, and he answered as above. Certain wealthy and trustworthy dealers of the district have engaged to import grain and put it down at depôts near the relief works in case supplies should ever be required for relief labourers.

6. In ordinary years the ryots and peasantry of North Arcot are prosperous people. They have comfortable houses and fine cattle. In the taluks on the plateau the villagers are poorer, still even then they are not in a depressed condition. Even this year the people were fairly well off, and the Collector for long abstained from opening relief works, because he thought they were not absolutely necessary. Prices no doubt were high, and there were signs of distress or uneasiness in the shape of dacoities and robberies. The police officials, high or low, much urged the Collector to interfere, saying that the people were starving, but the Native revenue officials confirmed the Collector in his opinion that the time for administering Government relief had not come. One or two deaths were reported by the police as caused by starvation, but the Collector after inquiry satisfied himself that the deaths in question were due to ordinary natural causes.

7. In December relief works were opened, and the highest number yet on the relief works was about 40,000. The latest published return shows a smaller total, but the temporary decrease was due to accident. Some few of the people on the works near Vellore were in a depressed physical condition when they first came, but the rest were, and still are, in good condition. Sir Richard Temple saw about 3,000 relief labourers at work on a tank in the Vellore cantonment, and they seemed to him to be, as a body, more in need of relief, and poorer altogether, than any relief gangs he has seen in the Madras Presidency. Taskwork is not exacted from the work-

* 1 Executive engineer.

3 Range officers (assistant engineer).

1 Overseer for each taluk.

people, and all the works have hitherto been under the supervision of the local revenue officials. The officials† of the engineering department are now going to direct the

works. Hitherto the relief labourers have been employed on roads, but orders have recently been received to work them on clearing tanks and irrigation channels.

8. Wages are paid to relief labourers in cash; once a week seven days' wages are paid in full, though no work is done on the Sunday. Originally the rate began at $2\frac{1}{2}$ annas for an adult male per diem, but this was, by Mr. Thornhill's order, reduced to two annas a day, at which it has since stood.

9. The Collector says that, instead of 40,000 persons, 80,000 are ready to come upon the works if only he would admit them. And he estimated that at the worst season as many as 150,000 persons might be upon the works in Arcot. After reading Sir Richard Temple's suggestions for economy, which have been laid before the Government of Madras, the Collector said that, provided he had competent agency to carry out those suggestions, he might keep the total numbers of relief labourers considerably below 150,000 without endangering the safety of the people.

* Now the estimate was—
80,000 average of February.
100,000 " March.
130,000 " April.
150,000 " May.

This estimate for May may be fulfilled if no rain falls in May. But if rain comes then the numbers ought to fall at once to 80,000 during May.

10. Until a few days ago nobody in the district was receiving gratuitous relief from the State, though some few hundreds were getting a daily meal at the Vellore municipal house. On the occasion of Sir Richard's visit the pauper recipients of relief at Vellore were inspected, and many of them were in a really emaciated condition. The medical officer, however, reported that the applicants for relief were greatly increasing, and that some of these applicants appeared to be in real need. The Sub-Collector accordingly, on the 31st December, sanctioned the opening of a relief house, and at present some 4,000 are receiving a daily dole of rice (1 lb. for adults). When appliances are ready cooked food will be given, but it is expected that the rate and costs of relief will be kept at about one-half of the cost per head of relieving paupers at the Red Hills camp near Madras. Mr. Irvine explains that Vellore town contains a considerable pauper population; he adds, however, that when relief began to be given a good many applicants came into Vellore from the neighbouring villages. As yet, however, no applicant has been granted a ticket for daily relief until the medical officer (or one of his subordinates) had certified him or her as a suitable recipient of charity.

11. The Collector is satisfied that in the interior the village officials will, after all the admonitions they have received, watch and bring up for relief people who are really in danger of starving. Some few paupers are receiving gratuitous relief at the cost of private charity at Gudiatam.

12. Hereafter there may be cause for apprehension in regard to the cattle or in regard to the water supply. Water is falling short in Vellore itself, but the district generally is full of wells, which are being deepened. In the taluks on the plateau the level of the sub-soil waters is sinking rapidly. Up to the present time the cattle have managed to pick up a living.

13. The Collector apprehends that one half of the land revenue demand (8 lakhs out of 16) will have to be suspended this year. There will be considerable loss, also, on the abkari (liquor excise) revenue.

C. BERNARD.

XIII.—MINUTE by SIR RICHARD TEMPLE, dated 20th January 1877.

In forwarding the accompanying memorandum of the facts learned during my visit to the North Arcot district I desire to record the following observations:—

2. The district has suffered a severe loss of harvest from drought; not more than four annas of the total harvest have been saved. It has a population of two millions of souls, scattered over an area of 7,139 square miles. It is almost entirely surrounded by distressed districts; it has several large towns inhabited by a poor population. There are many signs of coming distress upon a large scale. Nevertheless, the Collector, Mr. Whiteside, has managed so far to hold his hand as to give relief to only a limited number. It is true that great pressure has been, and is being, put upon him by the people to extend relief operations, and he may very shortly have to do so. But the fact remains, that on the 20th January there are not more than 40,000 persons receiving relief from Government, and that the total expenditure by Government on relief is considerably less than one lakh of rupees, viz., Rs. 66,000.

3. These circumstances are somewhat remarkable when contrasted with the facts shown in the memorandum regarding the Cuddapah district, which adjoins North Arcot. In Cuddapah the crop saved amounts to nearly three annas. Out of a population of 1,300,000 souls, 200,000 are on Government relief on the 20th January, the expenditure on relief up to that date amounting to six lakhs of rupees.

4. There may be local variations of circumstances between Cuddapah and North Arcot, a detailed comparison of which is not perhaps necessary here. But as affecting the scarcity, the numbers on relief works, and the expenditure, I can discover no essential difference between the two districts, save this, that in Cuddapah there is a three-anna crop, and in North Arcot a four-anna crop; that is to say, Cuddapah is 25 per cent. worse than North Arcot.

5. The questions then arise: Can the difference in result between the two districts be satisfactorily accounted for? Are they not mainly attributable to difference of management? The financial effect of such difference may be seen thus. Supposing that a precise calculation were made on the data above stated. If Cuddapah, with its three-anna crop and its 1,300,000 persons, had been managed in the same manner as the North Arcot district, the numbers on relief on the 20th January would have been 26,000 and the expenditure Rs. 40,000, instead of 200,000 persons and six lakhs of rupees respectively, as they actually were. On the other hand, if North Arcot, with its four-anna crop and its two millions of people, had been managed in the same manner as Cuddapah, then on the 20th January the numbers on relief would have been 225,000 persons and the expenditure would have been $6\frac{1}{4}$ lakhs, instead of 40,000 persons and Rs. 66,000

respectively, as they actually were. All this is arithmetically demonstrable even after allowing for the loss of harvest in Cuddapah being 25 per cent. greater than in North Arcot. And if the inference were to be fully drawn to its logical length, it would show the difference, viz., 6 lakhs, has been lost, whereas in North Arcot the difference, viz., 6 lakhs, has been saved, to the Treasury, mainly through the variations in the policy carried out. Inasmuch as there has been no loss of life proved* to result from starvation in North Arcot, it would seem to follow that the Collector there has done enough. If that be so, it would then seem, *primâ facie*, to follow that the authorities in Cuddapah had been, and are, doing too much.

6. Without unduly pressing the logical conclusions to be drawn from these calculations, I would still represent that, *primâ facie*, a strong case arises for reconsidering the arrangements in Cuddapah with reference to financial economy, so far as that may consist with the safety of the people.

RICHARD TEMPLE.

XIV.—MINUTE by SIR RICHARD TEMPLE, dated 22nd January 1877.

In my minute of the 19th January, I recommended that relief wages in the Madras Presidency should be experimentally reduced from 2 annas to $1\frac{1}{2}$ annas a day for a male adult, that is, a diminution of 25 per cent. The financial effect may be approximately estimated thus:—The present number of labourers may be taken at 1,200,000; the average wage may be taken at $1\frac{1}{2}$ annas (including men, women, and children, receiving 2 annas for a man, $1\frac{1}{4}$ annas for a woman, and 1 anna for a child per diem), or Rs. $2\frac{1}{2}$ per mensem per head all round. This will give a total of 30 lakhs of rupees per mensem on the whole. A reduction of one-fourth of 30 lakhs, if it can be maintained, would at once cause a saving of $7\frac{1}{2}$ lakhs per mensem. This saving will accrue even if the present total of relief labourers shall fortunately not increase. If it were, however, to increase, the saving would be proportionately greater. If a saving of $7\frac{1}{2}$ lakhs a month were to be carried out for four months, which is the shortest time computable, then the total saved on this heading alone would be 30 lakhs of rupees. In all probability this saving will really be much more. Under some circumstances, which are unfortunately but too probable (that is, increase in the number of relief labourers), it might amount to 50 lakhs or half a million sterling. This is, I submit, an important consideration financially, which cannot be lightly set aside.

2. I mention this because I apprehend that objections will be raised to this particular proposal, which objections may in effect be thus stated; namely,—

- (1.) That $1\frac{1}{4}$ annas per diem will not at present prices purchase sufficient food.
- (2.) That it will not sustain the people in robust health.
- (3.) That it will not enable a man to perform taskwork with all his strength.
- (4.) That a reduction will make the relief labourers discontented, and tempt them to rioting.

3. In my judgment these objections are not valid as against making an experiment upon which such large financial results depend.

4. As regards the first objection, at a price of 8 seers a rupee for common food grains, $1\frac{1}{2}$ annas will purchase one pound avoirdupois of grain, and will leave a margin for vegetables and condiments. Experience has shown that, though this may not be a large ration, still it will sustain life. In prosperous times the peasantry perhaps eat more, but even in ordinary times it is probable that the poorest classes in many parts of India do not really get more. So much is this the case, that in many parts of India half a seer a day, meaning one pound, has passed into a proverb for bare subsistence. I submit that, in such an emergency as this, to give more than such subsistence is beyond the power of the Government. Nor can it be said that a man ought to receive more than $1\frac{1}{2}$ annas per diem, bare subsistence, because he has to feed those dependent on him; for, as a matter of fact, under the relief system, not only the man, but the wife and children, also receive wages.

5. Next, as to the objection that $1\frac{1}{2}$ annas per diem will not sustain the people in robust health, I should rejoin that this question would be solved in the course of a very few weeks by an examination as to whether any signs of physical depression begin to manifest themselves among the recipients of relief. That these poor people might wish for more is probable. But then the principle to be remembered that Government cannot undertake to avert distress nor mitigate the pressure which arises from a somewhat short ration; it has not the means of doing more than save life.

6. Then as to the third objection, that $1\frac{1}{2}$ annas per diem will not enable a man to perform taskwork with all his strength, it is sufficient to reply that the task will be regulated according to the strength of the people. It will be out of the question to give high relief wages merely to get a high degree of taskwork. The relief roads and other works are undertaken, not so much for their own sake, but for the purpose of affording relief. It is, of course, an object to get as much of good work as can be got. Still it is to be remembered that these operations are undertaken, not because they are absolutely required in themselves, but because they afford relief. Therefore considerations relating merely to public works must be subordinated, as I submit, to the financial consideration of disbursing the smallest sum of money consistent with the preservation of human life.

7. Lastly, as to the objection that a reduction from 2 annas to $1\frac{1}{2}$ annas would make the relief labourers discontented, and tempt them to rioting, it is sufficient to reply that there is no chance whatever of this, if only those are admitted to the works who are absolutely in need of

* I understand that some very few casualties have been reported by subordinate officials, but have not been admitted by the district authorities as real cases of starvation.

assistance. Persons who are thus situated are necessarily thankful for what they can get, and are the last people in the world who would resort to violence in order to obtain more. If, indeed, they were to attempt anything of the sort, that would *per se* be a proof that they were not really in need. And any such attempt would be put down with the necessary firmness and promptitude. It is probable, indeed, that the headman of gangs and other petty officials, who might have some sinister interest in keeping up a higher rate of wage, might instigate the people to be clamorous, and even riotous. But these misguided efforts would soon be stopped.

8. I therefore submit that, on the one hand, there are no adequate objections to deter the Government from making a trial to reduce the rate of relief wage for adult male labourers from 2 annas to $1\frac{1}{2}$ annas per diem; while on the other hand, there are important financial considerations to render the trial worth making.

RICHARD TEMPLE.

XV.—MEMORANDUM on the Condition and Prospects of the Coimbatore District, as ascertained by Sir Richard Temple from the Collector, on 21st January 1877.

Sir Richard Temple had not time to visit Coimbatore, where distress was believed to be as yet inconsiderable. But the Collector, Mr. Wedderburn, was good enough to meet Sir Richard Temple at Erode, and to travel with him through the Coimbatore district.

2. This district comprises 7,432 square miles, with a population of 1,763,274. It is divided into 10 taluks, of which two, and part of a third in the north, consist of hilly and forest country, where the population is extremely sparse. The Madras and Beypore Railway passes right across the more distressed part of the district, while the railway to Trichinopoly passes down the south-eastern taluks.

3. The south-west (or early) monsoon does not in ordinary years reach any part of the Coimbatore district, save the forest tracts to the north and the southernmost taluks. The main population of the district depends upon the crops watered by the north-east (or late) monsoon, and upon the crops raised by means of irrigation from wells and river channels. The staple dry crops are cholam and cumboo (big and lesser millets). Ragi and rice are grown on lands irrigated by wells. In ordinary seasons they get two or three crops off the irrigated lands within the year. The area under irrigation from river channels is about 116,000 acres; under well irrigation, 300,000 acres.

4. This season the north-east monsoon failed. The district average rainfall during the October rains is 12 inches; this year (1876) the average fall was only two inches. Consequently the greater part of the dry crop land was unsown. Even in the lands under river channels and wells the yield is small, and the ryots will be unable to raise a second or third crop by reason of the smallness of the supply in the rivers, and by reason of the failure of water in the wells. As Sir Richard Temple passed by railway over the best irrigated part of the district, where a channel from the Bhowani passes near the Cauvery River, the Collector pointed out fields of rice which, though sown and come up, were yet withering, because the Bhowani water had failed them. Along the railway line, however, Sir Richard saw a considerable breadth of capital irrigated rice land. Giving credit for the probable yield of the irrigated lands, the Collector puts the estimated yield of this whole district at four annas, or about one quarter of a good crop. He mentions, however, that Coimbatore, with its uncertain rainfall, rarely secures a full or even a good crop all round.

5. The parts of Coimbatore most affected by the failure are the central thickly-peopled taluks of Palladam, Darapuram, and Perundoray (or Erode), containing a population of 700,000 people. Caroor, with a population of 170,000, also had a very short rainfall; but the Bhowani channels water the eastern side of the taluk. The people of Coimbatore are fairly well off in good years; their staple food is cholam and ragi. They grow enough food for their own consumption, and in ordinary years the district neither exports nor imports food. The people are thrifty; and on account of the uncertainty of their climate, they habitually store up the surplus produce of good years. They have been living this year on those stocks. Last year's (1875-76) harvests were good everywhere except in the taluks of Palladam and Caroor, where the north-east monsoon (or latter rains) failed; the harvests of 1874-75 were up to the average of the district, but a bumper crop is seldom seen in Coimbatore.

6. There is ample supply of food-grain in all markets; private trade is active; there is an abundance of carts and plough cattle, and the district roads are decidedly good. Only during the last few days have importations of food to any appreciable extent come into the district, and they are mainly from the district of Malabar, whence rice comes to Coimbatore cheaper than from the east coast. The price of food at present at Coimbatore is—

Cholam	-	-	-	-	-	9 seers per rupee.
Ragi	-	-	-	-	-	9 ditto.
Rice	-	-	-	-	-	6 ditto.

Prices in the interior of the district are about the same. The Collector does not anticipate that the supply of food in this district can fall short; private importations by rail can always supply any deficiency. He was asked whether any Government grain should be sent to his district, and he replied that there was no need of any such help in Coimbatore.

7. A few weeks ago the paupers of the district, and other people who found difficulty in getting subsistence, came flocking into the towns. There were no deaths from starvation, but there was some pressure, and the Collector opened a few relief works. At present, there are about 24,000 persons receiving relief wages for work on roads and tanks. The irrigation channels of the district are all in good order, so the Collector cannot employ relief labourers thereon. The work is done under the supervision of the revenue officials. The workpeople, even when they first came, were in good condition, and they give a fair tale of work. Wages are two annas a day for adult males, and proportionately for women and children. The Collector estimated

that he may have to provide work and wages for 150,000 relief labourers at the worst time; that number at any rate is the highest he expects ever to have, and he may be able to keep the number from ever reaching that maximum.

8. No gratuitous relief is being distributed at the public expense; but in two or three towns charitable people are distributing cooked food to paupers.

9. The Collector fears that he may have to suspend 5 lakhs of land revenue out of a total of 19 lakhs. The abkaree (liquor excise revenue) yield will be very far short of the yield of the previous year.

10. There is no present need for anxiety about the supply of drinking water or the state of the cattle in the Coimbatore district.

Madura, 22nd January 1877.

C. BERNARD,
Secretary to Sir. R. Temple.

XVI.—BRIEF MEMORANDUM concerning the Condition of the Trichinopoly District.

As the Trichinopoly district is but little affected by the recent failure of crops, Sir Richard Temple could not spare time to stop therein. But as some small relief works are going on there, and the district finds a place in the published returns of affected districts in the Madras Presidency, he desires that a short record should be made of such general facts as he was able to ascertain. Mr. Sewell, the Collector, was away in camp, but Mr. Whyne, the Assistant Collector, was good enough to wait upon Sir Richard for an hour at the Trichinopoly railway station.

2. The district comprises 3,515 square miles, with a population of 1,200,408. It is watered by the Cauvery River and its affluents; and the Southern Madras Railway (narrow gauge) passes through the district. A great part of the cultivated land, roughly estimated at about one-third of the crop area of the district, is irrigated. The present season is the third year of indifferent harvests. The rainfall was deficient, not equal to half the average of previous years. Good rain, however, fell in the last week of December, whereby the rice and pasturage were greatly benefited; and, while the irrigated area has probably given a fair average yield, the dry-crop area has not given more than a four-annas (or quarter an ordinary good) harvest. The total yield of the district might be put down at seven annas, or less than half of an ordinary good harvest.

3. There is plenty of food in the district, and markets are well supplied. If need arise, private trade will bring in food. The habit of the district is to export largely the finer kinds of rice and cotton, and to import the coarser grains for the food of the poor.

4. The ordinary food of the common people is coarse rice; and this is quoted in the Trichinopoly bazar at $8\frac{1}{2}$ to $8\frac{3}{4}$ seers per rupee. Prices in the interior of the district are much the same as at head-quarters. The shortness of two harvests before the present season must have reduced the stocks; and thus these prices (extremely high for Trichinopoly) are explained.

5. There are about 600* people employed on relief works, which were only recently opened for some of the poorer classes, especially strangers from other districts, who, in time of dear prices, could not manage to buy food. The people were not in a very reduced condition. About 1,000 people are being relieved by private charity. The district officers (so far as Mr. Whyne represented their views) do not consider the Trichinopoly district to be distressed at present, though distress and need for relief on a considerable scale may hereafter arise.

6. It is expected that 3 lakhs out of a total land revenue of 15 lakhs may have to be suspended or remitted. The first instalments have, however, been, and the second are now being, collected. Still, the local officers anticipate that some suspensions or remissions will be necessary, especially on the wet-crop lands, which have failed to produce anything by reason of the failure of water in the tanks.

7. There is plenty of water and pasture; and, so far as Sir Richard Temple could judge from the appearance of the taluks through which the railway passes, there is plenty of water, and there is also pasture everywhere. The people look well and comfortable, and some of the ryots have doubtless reaped advantage from the high prices.

Madura, 22nd January 1877.

C. BERNARD, Secretary.

XVII.—MINUTE by SIR RICHARD TEMPLE, dated Madura, 22nd January 1877.

With my minute of the 12th January was submitted an estimate, compiled on the data then available, and subject to correction, of the probable relief expenditure in the Bombay Presidency. Since that minute was written I have visited the three most distressed districts of the Madras Presidency, and have anxiously considered what steps could be taken to reduce relief outlay in the present and to prevent its excessive increase in the future.

2. I have now offered for the consideration of the Government of Madras suggestions for securing economy, which may be summarised thus:—

- (1.) To stop all fresh admissions to the relief works in the three worst districts, save under a certificate from an official not under the grade of a deputy tahsildar.
- (2.) To re-examine as soon as possible every gang, person by person, with a view to eliminating and discharging for the present everyone not in absolute need of State relief. By "absolute need" is meant danger of starvation if not supported by Government.
- (3.) To reduce the adult wage from two annas to one and a half annas per diem, and the rates for women and children proportionately; the grain wage, where given, to be adjusted exactly according to this standard.
- (4.) To impress upon the reddy and karnum (patel and kulkarni) of every village the responsibility of bringing before the nearest revenue inspector (revenue or relief officer) every case of dangerous distress.

(5.) These measures, if adopted, to be quite tentative and subject to reconsideration after one month subsequent to their introduction.

3. My minutes of the 19th and 22nd January set forth my reasons for making these suggestions, and they also advert to certain objections which may possibly be urged against the suggestion for reducing the wage rate to one and a half annas. I need not, therefore, again go into those points.

4. I think that it may be possible to apply these suggestions, in part at any rate, to the distressed districts of Bombay; and I would ask his Excellency the Governor in Council to consider whether this cannot be done. My impression was that Mr. Norman, Collector of Poona, and Mr. Robertson, the Commissioner of the Southern Division, considered that it would be possible by careful examination to eliminate and discharge from the works a considerable number of the labourers in the relief gangs.

5. As I hope that it may be possible to adopt on the Deccan relief works my suggestion for reducing the wage rate, I proceed to revise my estimate of relief expenditure in Bombay, which was framed on the supposition that the present wage of two annas for an adult male labourer would be maintained. If the reduction of wage can be carried out and can be maintained, then the estimate previously offered of the Bombay relief expenditure can be modified thus :—

Relief Works Expenditure.	Previous Estimate.	Present Revised Estimate.
	Rs.	Rs.
January to March, 416,000 persons for three months - -	37,44,000	32,76,000
April to June, 705,000 persons for three months - -	63,45,000	47,59,000
July, 340,000 persons for one month - - - -	10,20,000	7,65,000
Total of relief works expenditure - -	1,11,09,000	88,00,000
Add for charitable relief at 10 per cent. on the relief works expenditure - - - -	11,00,000	11,00,000
Estimate for extra establishments - - - -	13,00,000	13,00,000
Add for estimated expenditure to the end of December 1876 -	14,00,000	14,00,000
Grand total - - - -	1,49,00,000 or £1,490,000	1,26,00,000 or £1,260,000

To this minute is appended a short memorandum explaining how each of the figures of my reduced estimate has been computed.

6. It will be seen that the reduction of the rate of relief wages will, if maintained, secure a saving of 23 lakhs. I have not reckoned upon any direct saving accruing from the adoption of the first and second of my suggestions, because in some of the Bombay districts discretion has already been exercised in opening relief works. Still it is possible that under those two suggestions some additional economy may be secured which may be set against possible excess of relief labourers, or other unforeseen relief expenditure of other kinds.

RICHARD TEMPLE.

MEMORANDUM explanatory of the Reductions made by Sir Richard Temple's Minute of the 22nd January, on his previous (dated 12th January) Estimate of Relief Expenditure in Bombay.

ITEM I.

	Previous Estimate.	Present Estimate.
	Rs.	Rs.
Relief works expenditure from January to March -	37,44,000	32,76,000

It is supposed that the suggested reduction in the wage rate cannot be carried fully into effect before the middle of February; therefore, the previous full rate of expenditure has been estimated up to the 14th February, and the reduced (25 per cent. less) rate has been estimated from the 15th February onward to the end of July.

ITEM II.

	Previous Estimate.	Present Estimate.
	Rs.	Rs.
April to June relief works expenditure - - -	63,45,000	47,59,000

The estimate under this head has been reduced one-fourth, as above explained.

ITEM III.

	Previous Estimate.	Present Estimate.
	Rs.	Rs.
July relief works expenditure - - - -	10,20,000	7,65,000

The estimate under this head has been reduced one-fourth, as above described.

Other Items.

No reduction has been made in the estimate for "establishment," because these will have to be maintained at full strength notwithstanding the reduction of wages.

The numbers on charitable relief may somewhat increase when the relief gangs are scrutinized and new admissions are less readily permitted. On the other hand, Rs. 3 per mensem was perhaps an outside estimate for the cost of relieving each pauper. On a review of all the circumstances, therefore, this item in the previous estimate has been left unreduced.

C. BERNARD, Secretary.

Revenue, No. 26.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 22nd March 1877.

Para. 1. The Despatch of your Excellency in Council, dated 2nd February, No. 6 of 1877, relative to the scarcity in Western and Southern India, has been considered by me in Council.

2. I have read with great interest the reports of Sir R. Temple, which give a clear and vigorous sketch of the condition of the affected districts in the Madras Presidency. I note with satisfaction that the Madras Government has been able to accede substantially to all the proposals made by Sir R. Temple, and that orders on the subject will at once be issued.

3. There appears to be no material change in the condition of the distressed districts in either Presidency. The worst feature is the prevalence of cholera in the Madras districts.

4. I shall hope soon to receive the reports alluded to in the last paragraph of the Despatch of your Lordship in Council.

I have the honour to be, &c.

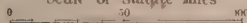
(Signed) SALISBURY.

LONDON:

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For Her Majesty's Stationery Office.

THE DISTRIBUTION
of
PERSONS RELIEVED
in the
FAMINE DISTRICTS
of
SOUTHERN INDIA
according to the latest Reports

Scale of Statute Miles

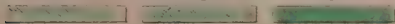


The Famine Districts arranged according to the
Per centage of Relieved to Total Population.

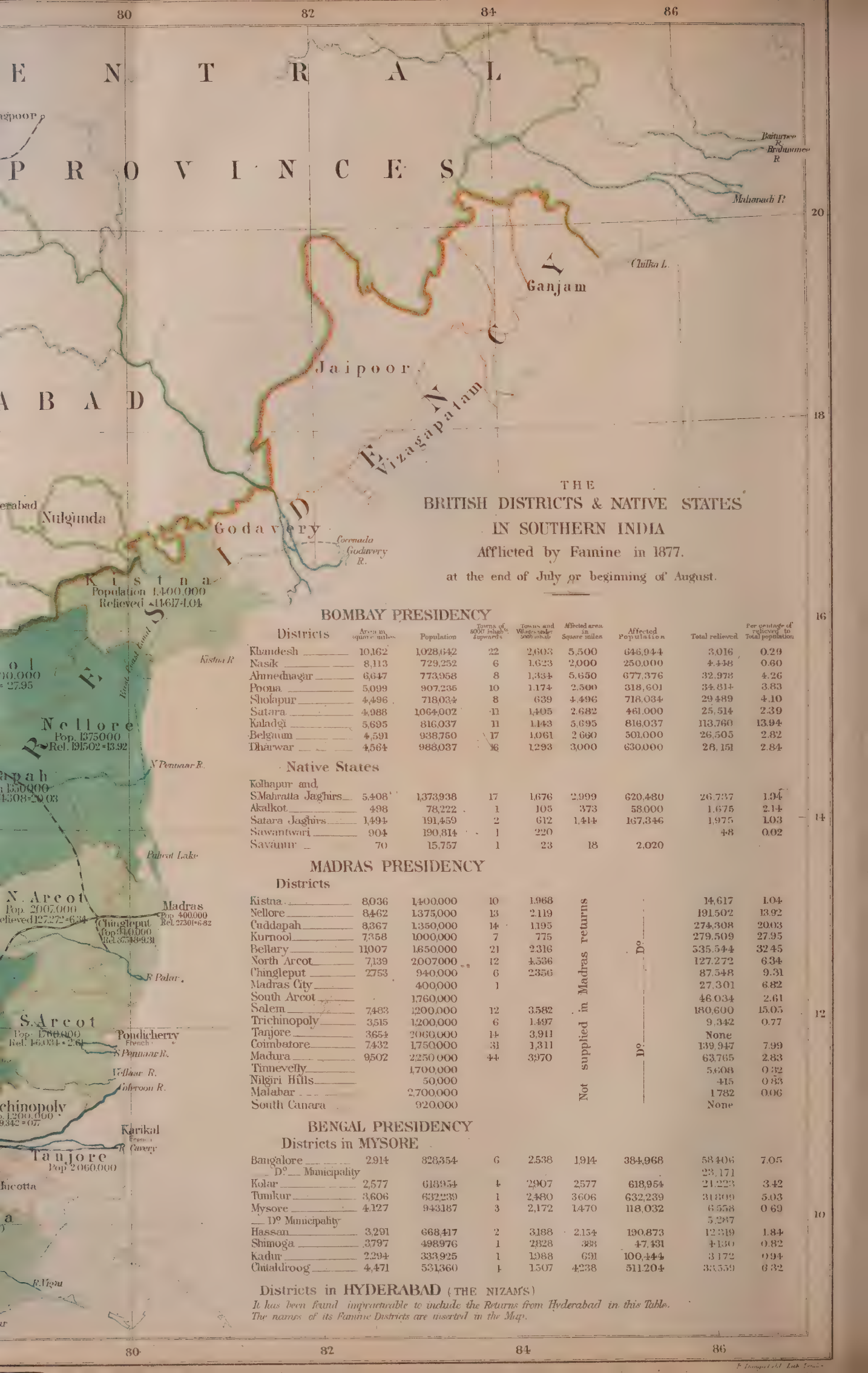
Per cent	Districts	Per cent	Districts
0.02	Sawantwari	2.84	Dharwar
0.06	Malabar	3.42	Kolar
0.29	Khandesh	3.83	Poona
0.32	Tinnevely	4.10	Sholapur
0.60	Nasik	4.26	Ahmednagar
0.69	Mysore	5.03	Tumkur
0.77	Trichinopoly	6.32	Chitaldroog
0.82	Shimoga	6.34	North Arcot
0.83	Nilgiri Hills	6.82	Madras City
0.94	Kadur	7.05	Bangalore
1.03	Satara Jaghirs	7.99	Coimbatore
1.04	Kistna	9.31	Chingleput
1.84	Hassan	13.92	Nellore
1.94	Kolhapur & S. Mah. Jag.	13.94	Kaladgi
2.14	Akalkot	15.05	Salem
2.39	Satara	20.03	Cuddapah
2.61	South Arcot	27.95	Kurnool
2.82	Belgaum	32.45	Bellary
2.83	Madura		

The Three Blue Tints distinguish
the Per Centage of Relieved to Total Population

Under 1 per cent 1 to 10 per cent Above 10 per cent



Tinnevely
Pop. 1,700,000
Relieved 56,000 = 3.2



THE
BRITISH DISTRICTS & NATIVE STATES
IN SOUTHERN INDIA
Afflicted by Famine in 1877.
at the end of July or beginning of August.

BOMBAY PRESIDENCY

Districts	Area in square miles	Population	Towns of 5000 inhabs upwards	Towns and Villages under 5000 inhabs	Affected area in Square miles	Affected Population	Total relieved	Per centage of relieved to Total population
Khandesh	10,162	1,028,642	22	2,603	5,500	646,944	3,016	0.29
Nasik	8,113	729,252	6	1,623	2,000	250,000	4,448	0.60
Ahmednagar	6,647	773,958	8	1,334	5,650	677,376	32,978	4.26
Poona	5,099	907,236	10	1,174	2,500	318,601	34,814	3.83
Sholapur	4,496	718,034	8	639	4,496	718,034	29,489	4.10
Satara	4,988	1,064,002	11	1,405	2,682	461,000	25,514	2.39
Kuladgi	5,695	816,037	11	1,143	5,695	816,037	113,760	13.94
Belgaum	4,591	938,750	17	1,061	2,660	501,000	26,505	2.82
Dharwar	4,564	988,037	16	1,293	3,000	630,000	28,151	2.84

Native States

Kolhapur and S.Maharatta Jaghirs	5,408	1,373,938	17	1,676	2,999	620,480	26,737	1.94
Akalkot	498	78,222	1	105	373	58,000	1,675	2.14
Satara Jaghirs	1,494	191,459	2	612	1,414	167,346	1,975	1.03
Sawantwari	904	190,814	1	220			48	0.02
Savannur	70	15,757	1	23	18	2,020		

MADRAS PRESIDENCY

Districts

Kistna	8,036	1,400,000	10	1,968			14,617	1.04
Nellore	8,462	1,375,000	13	2,119			191,502	13.92
Cuddapah	8,367	1,350,000	14	1,195			274,308	20.03
Kurnool	7,368	1,000,000	7	775			279,509	27.95
Bellary	11,007	1,650,000	21	2,316			535,544	32.45
North Arcot	7,139	2,007,000	12	1,536			127,272	6.34
Chingleput	2,753	940,000	6	2,356			87,548	9.31
Madras City		400,000	1				27,301	6.82
South Arcot		1,760,000					46,034	2.61
Salem	7,483	1,200,000	12	3,582			180,600	15.03
Trichinopoly	3,515	1,200,000	6	1,497			9,342	0.77
Tanjore	3,654	2,060,000	14	3,911			None	
Coimbatore	7,432	1,750,000	31	1,311			139,947	7.99
Madura	9,502	2,250,000	44	3,970			63,765	2.83
Tinnevely		1,700,000					5,608	0.32
Nilgiri Hills		50,000					415	0.83
Malabar		2,700,000					1,782	0.06
South Canara		920,000					None	

Not supplied in Madras returns

BENGAL PRESIDENCY

Districts in MYSORE

Bangalore	2,914	823,354	6	2,538	1,914	384,968	58,406	7.05
D ^o Municipality							23,171	
Kolar	2,577	613,954	4	2,907	2,577	618,954	21,223	3.42
Tumkur	3,606	632,239	1	2,480	3,606	632,239	31,809	5.03
Mysore	4,127	943,187	3	2,172	1,470	118,032	6,558	0.69
D ^o Municipality							5,287	
Hassan	3,291	668,417	2	3,188	2,154	190,873	12,319	1.84
Shimoga	3,797	498,976	1	2,828	388	47,431	4,130	0.82
Kadur	2,294	339,925	1	1,988	691	100,444	3,172	0.94
Chitaldroog	4,471	531,360	1	1,507	4,238	511,204	33,559	6.32

Districts in HYDERABAD (THE NIZAM'S)

It has been found impracticable to include the Returns from Hyderabad in this Table. The names of its Famine Districts are inserted in the Map.

PART III.

COPY OF CORRESPONDENCE

BETWEEN

THE SECRETARY OF STATE FOR INDIA AND
THE GOVERNMENT OF INDIA,

ON THE SUBJECT OF

THE FAMINE IN WESTERN AND
SOUTHERN INDIA.

Presented to both Houses of Parliament by Command of Her Majesty.



LONDON:

PRINTED BY GEORGE EDWARD EYRE AND WILLIAM SPOTTISWOODE,
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.
FOR HER MAJESTY'S STATIONERY OFFICE.

1877.

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NOTE.— *The following correspondence may be classed under three heads, namely :—*

1. *Letters from the Government of India to the Secretary of State.*
2. *Enclosures in the same.*
3. *Despatches from the Secretary of State.*

The correspondence is arranged simply in order of date, the connexion of subjects being secured by marginal numbers and by an index.

The marginal numbers in a line with the heading of the document refer to the accompanying enclosure next in order of date, and to the covering letter of the Government of India. Where there is a single number the latter only is indicated. In the same way, in the case of letters from the Government of India, reference is made to the answering Despatches of the Secretary of State.

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CORRESPONDENCE.

No. 1.

LETTER from Mr. H. T. Ross, Acting Head Assistant Collector, to the COLLECTOR OF Nos. 6. 221.
BELLARY, No. 332, dated Pennakonda, 10th December 1876.

Ever since I opened relief works in my three taluks, they have been resorted to by Mysore subjects in distress. For some time the number of these was inconsiderable, and I directed my tahsildars personally not to exclude any persons who came for relief to our works, no matter what their villages were. Now, however, the number of Mysore coolies on our works is considerable and believed to be on the increase, and it becomes a matter for serious consideration whether large sums of our Government money should be expended in supporting Mysore subjects who have their own Government to look after them. I have not liked to turn them off my works, because they have represented to me earnestly that they have no means of living as no work has been provided for them in their own taluks, and there could be no mistake about their distress and their gratitude for the relief given them. I have the honour to request early instructions whether I am to continue admitting an unlimited number of Mysore subjects to my relief works or not.

Difficulty caused by Mysore subjects resorting to relief works in British territory.

No. 2.

No. 713, dated Kolhapur, 14th December 1876.

From the STATE KHARBHARI,* Kolhapur, to the POLITICAL AGENT, Kolhapur and Southern Nos. 147.
Mahratta Country.

With reference to Government letter No. 6,975, dated 25th November 1876, calling for further particulars regarding the state of Kolhapur District and of its finances, I have the honour to report as follows:—

Kolhapur State.

A closer inquiry into the state of the crops has revealed a much better state of things than was at first anticipated. It now appears that the Kolhapur State proper may fairly realise on the whole two or three annas more than the first calculation, that is, about six lakhs out of nine, which is the average amount of land revenue collections. The crops have, no doubt, partially failed here and there, but the cultivator has been able to make up his loss to a great extent by the enhanced prices which the surplus produce of his fields fetches in the market. The sale of the karbi and grass grown upon his lands has also given him material help.

2. There is thus no immediate danger of distress occurring among cultivators, who form a large portion of the population, excepting those of the easterly districts of Shirol, Raibág, and Katkol, where it has already prevailed, and where relief works have been, and are being, started to counteract its effects. Except the population inhabiting these famished villages, the rest have yet been able to shift for themselves, and things will probably continue to move in the same course till the end of March. In the months of April, May, and June larger number of labourers will apply for employment, and it will be necessary to make provision for them by opening more relief works at appropriate places in the district. During the rainy season they will again return to their agricultural pursuits, and the demand for employment at the relief works will be considerably lessened. But if prices again rise, which is likely to be the case, special measures will have to be adopted for bringing the supplies of corn within the reach of the afflicted people.

3. The population in the whole district is a little more than eight lakhs. Of these, about one tenth (*i.e.*, 80,000) may be supposed to live from hand to mouth. Half of these will manage to shift for themselves by serving their brothers in well-to-do circumstances, and the State should be prepared to make provision for the remaining half, that is, about 40,000 people, in the shape of charity or relief works, the relief being paid either in cash or in kind.

Kolhapur
State.

4. Corn has been imported from Bombay and other places in large quantities by private dealers. The policy of strict non-interference has had a very healthy effect upon the Kolhapur market, there being in it at present a far larger quantity of cereals than it ever could command before. The State has also made very large purchases from districts where the season has been more favourable, and this example was followed by the local traders. Hitherto they never ordered out supplies from out-stations, being generally satisfied with the small quantities brought in by itinerant cartmen and occasional wanjaris. But the present distress has given a new impetus as it were to the commercial activity of the people of Kolhapur. The example set by the State in ordering stores of cereals was not lost upon the traders; importations have been made by them, and the market is well supplied with corn. Prices have gone down a little in consequence of these large importations, but this state of things is not to be relied upon. The district of Kolhapur is not favourably situated with respect to its intercourse with Bombay and other places, where the importation of cereals is facilitated by the proximity of the railway line. In the rainy season the coast communication is all closed, and the few local traders are always in a condition to monopolise the grain traffic. Up to the end of May the present rates will probably continue with slight variations, unless the new crops in Guzerat and other exporting districts suddenly change the scale either one way or the other. With the setting in of the rainy season, the traders will again be in a condition to combine and to sell such grain as they hold at famine prices, when it will be necessary for the State to supplement the supplies in the country from the stocks which it has laid in. Under ordinary circumstances the State always requires a large quantity of cereals to feed its large number of dependants, but this year it will have to support an unusually large number of labourers, who will have to be partly paid in kind, and I very much doubt if even the large purchases already made will suffice to meet the extraordinary requirements of these exceptional times.

5. The financial condition of the Kolhapur State and of the States subordinate to it is, as will appear from the annexed statement, on the whole satisfactory. There are surplus funds enough to meet the extraordinary expenditure necessitated by the scarcity.

6. Cattle are still pouring in from the eastern districts, and full freedom of forage is given to the owners in places available for the purpose. People it appears have been making provisions of fodder for the dry season, and I believe no special remedial measures are necessary as far as the wants of the people of Kolhapur in respect to fodder are concerned.

7. The water supply will become more and more scanty as the season advances in the eastern talukas of Alta and Shirol. The distress has already begun to manifest itself, but the great rivers Krishna, Warna, and Panchganga are generally within a distance of five or six miles from almost every village in this part, and the villagers are generally accustomed in the hot season to fetch water from such distances when wells and tanks fail. It does not appear, therefore, that people will leave their villages on account of the water scarcity, though no doubt their resources will be tested to the utmost in procuring this most important element of life. In the western parts of the district, which abounds in small rivulets, it will be necessary to construct temporary dams at the intervals of a few miles, and the water thus stored will serve the wants of the villagers as well as of the numerous cattle that have been draughted from the more famished districts in the east.

A.

STATEMENT showing the Financial Resources of the Kolhapur State, including its principal Feudatories, for the year 1876-77.

Consecutive Number.	Names of States.	Balances.			Estimated Receipts of Revenues for the Year 1876-77.	Total.	Expenditure.			Surplus.	Deficit.	Remarks.
		Cash.	Invested.	Total.			Current.	Extra-ordinary.	Total.			
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	Kolhapur	2,00,000	18,44,000	20,44,000	11,38,000*	31,82,000	9,87,850	5,00,000	14,87,850	16,94,150	—	* Regular land revenue - 6,00,000
2	Vishalgarh	11,800	1,72,400	1,84,200	63,700	2,47,900	73,400	20,000	93,400	1,54,500	—	Other receipts 5,38,000
3	Bawra	4,600	9,500	14,100	60,500	74,600	62,500	15,000	77,500	—	2,900	11,38,000
4	Kagal	900	2,44,100	2,45,000	89,100	3,34,100	76,900	15,000	91,900	2,42,200	—	Funds, if required, will be supplied by Kolhapur.
5	Inchalkaranji	1,05,000	1,57,900	2,62,900	1,51,800	4,14,100	1,37,100	1,05,000†	2,42,100	1,72,000	—	† This includes Rs. 85,000, the amount of half nazarana.
	Total	3,22,500	24,27,300	27,49,800	15,08,100	42,52,700	13,37,750	6,55,000	19,92,750	22,62,850	2,900	

MAHADEO WASSODEO BURVE,
State Kharbhari.

STATEMENT showing the Financial Resources of the following Native States under direct Management of this Agency, for the year 1876-77.

Names of States.	Cash Balance.	Invested in 4 per cent. Government Securities.	Total surplus Funds.	Estimated on probable Income for the Year 1876-77.	Total Receipts.	Expenditure.			Balance available.
						Ordinary.	Extra-ordinary.	Total.	
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Miraj (Senior) -	2,28,137	5,37,900	7,66,037	1,15,309	8,81,346	2,72,297	48,928	3,21,225	5,60,121
Mudhol -	99,891	6,38,000	7,37,891	1,34,284	8,72,175	1,50,879	50,000	2,00,879	6,71,296
Mhysal -	6,400	10,000	16,400	6,449	22,849	9,417	9,287	18,704	4,145

F. SCHNEIDER, Political Agent,
Kolhapur and Southern Mahratta Country.

No. 3.

No. 505, dated Kolhapur, 15th December 1876.

From the POLITICAL AGENT, Kolhapur and Southern Mahratta Country, to the SECRETARY No. 147.
TO THE GOVERNMENT OF BOMBAY.

I have the honour to acknowledge receipt of your letter, No. 6,975, of the 25th November, calling for more specific information than previously given as to the ability of Kolhapur and Southern Mahratta States to cope financially with the necessities of the present time.

2. The States under direct control are—

1. Kolhapur and its four feudatories, all minors.
2. Miraj (Senior branch).
3. Mudhol.
4. Mhysal.

3. Sangli, which is the chief of the Patwardhan Jaghirs, is managed by the Chief and Major West as Joint Administrator.

4. The following States are wholly under their own Chiefs:—

1. Miraj (Junior).
2. Jamkundi.
3. Ramdurg.
4. Kurundwad (Senior).
5. Kurundwad (Junior).

5. The statement A. shows the financial condition of Kolhapur and its feudatories, and it will be observed that, with the exception of Bawra, which State had only recently begun to show a surplus, the late Chief having died in debt, all are in a position to meet the present crisis. Should Bawra be in the end driven to straits, Kolhapur can provide whatever may be required.

6. Appended is a report from the State Kharbari, which shows that on a closer investigation the revenue receipts will be considerably in excess of what was at first expected, the addition being partly from a more favourable outturn of the crops in some districts, and again from the high prices of grain and khurbah enabling the ryots to realise more money on lesser crops.

7. Though the present state of things is fair, still there is in many parts of the State considerable distress, particularly among that portion of the population which depends on labour for subsistence; and relief works have been opened wherever it seemed necessary, and other projects have been prepared to be opened as they may be needed, consisting of local roads, tanks, &c. It is thought that in the course of two months there will be a large accession to the number of persons requiring work both in the Ghât districts and to the eastward. At present the ryots are busy getting in their early crops. After that shall have been finished, they will have nothing to do, and will begin to clamour for work. It is impossible now to give any estimate of the numbers who may hereafter have to be employed, but it would hardly exceed 30,000 to 40,000 at the outside, and for that number works have to be held in readiness.

8. What the requirements of the country may be in the next four months it is difficult to say, but as grain is becoming cheaper, the fear that prevailed for the last two months, that people with money would starve for want of grain, no longer exists, that is, so long as the fair weather lasts.

9. On what will happen when once the coast is closed for trade and the whole of this part of the country, as far to the eastward as Mudhol or even Bijapoor, becomes dependent on local stocks either original or imported, no one can tell. It is not believed that the supply will be equal to the demand, and the nearest centre of trade will be Poona, distant from here above 150 miles.

10. I have been unable to ascertain what stock of grain there is in the country, but it is impossible to suppose that it is large. The owners would never have lost such a market as the past two months afforded, and I believe that those who have grain have little more than for their own wants till the next harvest. Large importations by dealers are in progress, but they disappear into the interior as fast as they arrive, and are for the most part purchased in the towns and villages for present consumption. When recently in the districts, I made particular inquiries on this subject, and found that in the small towns and large villages where bazaars are held the importations were limited to the week's supply, and this is what will probably continue to be the rate of importations into such places from the coast or large marts nearest to it during the fair season. Directly the rain begins to fall, however, things will change and assume a very serious aspect. The coast and the roads from it will be closed, and all the country beyond the Krishna will become very difficult of access. Carriage, too, will not be obtainable in the same quantity, as, apart from the custom of housing carts in the rains, all having bullocks will be able to make fortunes by them in the fields. With such a prospect in view it is well to be prepared, and Kolhapur is laying in a stock for itself and feudatories that it may be prepared for the hard times which people look to, and which to me appear inevitable.

11. The statement B. shows the financial condition of the Southern Mahratta Country States under direct management. The first is Miraj (Senior). I was there for some weeks after the scarcity began. It is likely to be a great sufferer by the drought, but fortunately it has a large balance, and is in a position to meet its extraordinary expenditure. There are at the present moment numerous relief works in progress as the weekly returns show, and the number of applicants for work is constantly on the increase. The cause is the utter failure of the kharif all round the Miraj mhal, that is, the head-quarter petah; not even any khurbah has been got in many villages, only a little by the river side. The importations of grain into the town are large, but it is an extensive place with a large population and a larger one in mhal villages all depending on its weekly bazaar.

12. Mudhol is a compact little State, and has a sufficient balance for all required of it. This State also is a great sufferer. The Kharbhari reckons on only two annas in the rupee; and when there recently, I should say from what I saw that it would be hard to expect much more. There are several relief works in progress which will last for a time; others are ready whenever needed. Grain is brought in small quantities not more than enough for immediate consumption. The rates are much the same as those at Kaladgi.

13. Mhysal is but a single village sub-jaghir. It is at present managed by the Assistant Political Agent, though properly it belongs to Sangli. It is believed that it will just meet its expenditure this year, but advances can be made by Miraj to it if ever considered necessary. It is situated near Miraj, and the state of its crops is much the same as in that State.

14. Sangli is next in order to be mentioned, and I regret not to be able to speak more favourably of it. It is most unfortunately placed with heavy previous debts, a loss of half its land revenue for the year, no balances, cash or invested; the position is awkward. It is calculated that there will be a deficit of nearly four lakhs. Several relief works are in progress and others will be prepared. Major West estimated that his extraordinary expenditure for this season would be nearly three lakhs, for he has some very bad outlying districts, and will need to employ large numbers of men there, in fact, is doing so now. Like Miraj, the town of Sangli has a large bazaar, and much grain is being imported, sufficient for the wants of the inhabitants of it and the neighbourhood for about 10 or 15 days.

15. The condition of the finances of this State has been before brought to notice, and Government sanctioned some pecuniary assistance being given by Kolhapur. But what has been done is only a temporary measure pending the decision of Government as to

the future management. The following is a rough estimate of the position of the State:—

Kolhapur
and Southern
Mahratta
States.

	Rs.	Rs.
Total receipts	-	4,00,000
Deduct { Ordinary expenditure	5,00,000	
Extraordinary expenditure	3,00,000	
	-----	8,00,000
Deficit	-	4,00,000

16. I now come to the States wholly under their own Chiefs, and I regret that I cannot supply any figures to show their condition; but I can speak generally about them, having recently visited each and discussed its prospects with its Chief.

17. Miraj (Junior) has means, though it is impossible to judge the amount. He is very careful, and will not lay out more than he can help. He has some small works in progress. The crops in his State have suffered a good deal, much the same as in Senior Miraj and Sangli. I do not doubt the Chief will manage his affairs without assistance.

18. Jamkhundi is in much the same state as Mudhol; no kharif crop except by the riverside; most of the villages have been deserted by a large proportion of its inhabitants, who have gone towards the ghâts with their cattle. There will be considerable loss of revenue, and some money is being spent on relief works. I ascertained from the Kharbhari that there was a sufficiency of money to go on with. He believed that the Chief would not require to ask assistance. The Chief has himself imported and stored a large quantity of grain.

19. Karundwad (Senior) has no money, but he is not so much a sufferer as his neighbours. All round Karundwad itself the land is flourishing, being watered and flooded by two rivers. There will, however, be some loss on his outlying villages, and as assistance, either in money or grain, will have to be given, the Chief said he should ask to be permitted to put off till next year paying his contribution in lieu of sowar service, which amounts to Rs. 9,612-8, but has not yet done so. He has carried out one small relief work near Kurundwar. I do not think any more in that quarter are needed, certainly not for the present. The Chief has imported and advanced some grain on his ryots asking for it.

20. The Karundwad Join, or Chiefs, do not appear to have any cause for anxiety. They expressed none to me beyond general regret for the condition of things. I am not aware that they have any works in progress, but they have imported some grain. I believe they have quite enough means for anything required of them in their *Elaka*.

21. Ramdurg is not in affluent circumstances. He has no cash balance, but he has hitherto managed to raise sufficient to meet the extraordinary charges * in connexion with the scarcity. He said it was his intention to apply for permission to postpone paying certain dues amounting to Rs. 5,000 into the Dharwar Treasury.

22. An emergent call has been made for more detailed information from all the States, and as soon as it reaches me I shall submit it.

No. 4.

Local.—No. 280 C. W.—1,062 of 1876.

No. 65.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

II.—Civil Works.

Bombay, December 18, 1876.

I am directed to transmit, for the consideration of the Honourable the President in Council, a note which it is considered advisable by his Excellency the Governor in Council to place on record at this juncture, with the object of describing the main course of events during the last few months in the Deccan and the Southern Mahratta Country, and the principles by which this Government have been guided in their efforts to relieve the existing distress.

NOTE on the GENERAL POLICY of the GOVERNMENT OF BOMBAY in respect to Scarcity now prevailing in a part of the Bombay Presidency.

The general progress of the scarcity in the Deccan and Southern Mahratta Country has been recorded fully, but concisely, in the weekly statements which have been published by the Government, and which commenced from the week ending the 31st of October last.

2. These statements exhibit facts of great value as regards the state of the season and crops, the condition of the people, the comparative prices of grain, the progress of imports, and the measures adopted for the relief of distress; but the information is given in a concentrated form, and the time may now have arrived for reviewing the position of Government in regard to the scarcity somewhat more at length.

Commence-
ment and
progress of
the scarcity.

3. The previous season, that of 1875, had been an average one. The monsoon of 1876 opened at about the usual time, but the fall of rain up to the middle of August, though not wanting, was scanty. About that time uneasiness began to be felt as to the prospect of the season in parts of the Deccan and the Southern Mahratta Country, but it was not until September that this ripened into serious apprehensions that great distress was impending, and that it would be necessary for Government to undertake the relief of a large number of the population, who, owing to the failure of the monsoon crops and the absence of agricultural operations in preparation for the rabi crops, would be without food and without the means to purchase it.

4. The danger first began to manifest itself in the Khandesh Collectorate, and the first work of relief was authorised there on the 28th August, but rain fell in the eastern part of the Collectorate early in September, and the difficulty that was anticipated in a great measure passed away. In Sholapur relief work was first authorised on the 4th of September, and from that time up to the present there has been no relaxation of the stringency of the situation, either in that Collectorate or in any of the Deccan and Southern Mahratta Country Districts, though distress, which at one time promised to be very severe in Satara, Kaladgi, Belgaum, and Dharwar, was somewhat mitigated by a slight fall of rain which occurred in some parts of those districts in October.

5. As soon as it became apparent that there was a serious failure of the monsoon crops, and that there would probably be an almost entire absence of cold weather crops, the price of food grains at once rose, and on the 15th of November the staple grains, jowari and bajri, were selling in some parts of the Southern Mahratta Country at 12 and 14 pounds per rupee respectively. In some localities, especially in Belgaum, Dharwar, and Kaladgi not only were the nominal prices high, but grain could hardly be procured at all, and much of that which was offered was old and of bad quality. The holders of local stocks refused to dispose of them, except in very small quantities, either waiting for higher prices, or in view to husbanding their stores in anticipation of still greater scarcity, and, possibly, another year's drought. At the present time of writing, prices have fallen, the markets throughout the country are fairly well stocked, some of them over stocked, and although the fall in price has been slight, the quality of the grain has greatly improved, and it has been brought closer to the homes of the people. The average price of jowari is now $21\frac{1}{2}$ lbs. per rupee, and of bajri $20\frac{1}{2}$. Jowari is dearest in Kaladgi, where its price is $15\frac{1}{4}$ lbs. per rupee, and cheapest in Nasik, where it is selling for 32 lbs. per rupee.

6. Owing to the long-continued drought and absence of crops, there is a general want of forage throughout the eastern part of the Deccan and Southern Mahratta Country, which presses very hardly upon the cattle and their owners, and many of the owners have left their villages, and have driven their cattle away to distant pastures. The drought has also occasioned a considerable difficulty in respect to water supply in some localities. The absence of forage and of water upon some of the lines of road, especially in the eastern districts, has greatly complicated the question of transport, and has rendered it on a very large scale almost, if not quite, impracticable in some parts of the country.

Area and
population.

7. The area of the districts which are more or less affected is 54,355 square miles, and the population is 7,963,927.

8. The area of the most affected parts of these districts is 33,873 square miles, and the population is 4,981,616. The population is almost entirely agricultural, there are few large towns and no extensive manufactures; the land tenure is ryotwari, and there are no large landlords or persons corresponding to the Zemindars of Bengal.

9. The above are briefly the main conditions of the problem that has arisen, and it now remains to note—

THE GENERAL POLICY OF THE GOVERNMENT OF BOMBAY.

Grain Supplies.

10. As soon as it became apparent that, owing to the rise of the price of food-grains, and to the action of the local holders and dealers, large importation would be necessary to prevent great distress, the Government had to consider and decide what course they should take; whether they should follow the precedent of the Bengal Famine of 1874, and themselves undertake to import grain, or whether that necessary work should be left to the operations of private traders. The matter was most carefully and anxiously considered, and it was at length determined that Government might safely leave it to the trade to do all that was needed; and although the Government have been strongly urged to depart from this policy, they have firmly and consistently adhered to it with entirely satisfactory results up to the present moment.

Policy of non-interference with grain trade decided on.

11. In weighing the matter the Government considered that any decided movement on their part would be likely to act prejudicially on the trade; that if the merchants were led to expect that they would be subjected to the competition of the Government, they would withdraw; and as it was clear that, no matter how powerful the Government might be, and that on however extended a scale their efforts might be made, they could not hope to effect all that the trade, if it exerted itself, could do, it was held that it would be better for Government not to enter into the market at all; for, though the Government might be able to do more than many merchants could do, they could not hope to effect so much as could be done by all of them. It was, therefore, publicly made known that Government would not in any way interfere with the grain trade or with the movements of grain, unless actually forced to do so by failure of supply or by excessive extortion on the part of dealers; that they would buy nothing on their own account for importation into the affected districts, though they were ready to enter into contracts for the delivery on their own works of food-supplies to their own labourers; that, in fact, they were not prepared to do more than to act through the trade on behalf of those who come upon their relief works, and that they would not in any way themselves assume the position of traders or importers, so long as they could ensure the people on the works being supplied with food.

Reasons which led to decision.

Decision made publicly known.

12. The expectations that the natural demand for food would produce the usual effect on the supply have been justified so far by the result, and the relief works the Government have commenced have acted as powerful auxiliaries in heightening this effect, and have been not only directly useful in supporting persons employed upon them, but have been indirectly useful to the rest of the population by causing money to circulate, and, by thus providing purchasers, have encouraged and stimulated the supply.

Justified by result.

13. In October the Great Indian Peninsula Railway began to deliver large supplies of grain at their stations in the affected districts, and up to the present time have conveyed 58,585 tons to these stations; the grain movement has been most extraordinary, the railway company could not provide engines and rolling stock for its conveyance, and their stations and sidings did not contain room for its accommodation, the station and traffic staff had to be largely increased, and along parts of the line the accumulations, that could not be at once disposed of, became very large. At this moment there is little, if any, diminution of the grain traffic, and it is a fact that all the towns in the affected districts along the railway are overstocked; from these towns, as fast as carriage can be obtained, the grain is passing into the interior, and most of the local markets are now reported to be well supplied. In one district only has it been necessary for Government to take any active or decided steps as regards grain imports. For this district, Kaladgi, from its remoteness, and from the fact that it contains few Marwaries, or Bunyas, the grain stocks being chiefly held and sold by the Patels and Kulkarnis of the villages, and by the more wealthy ryots, who manifested great reluctance to sell on any terms, it became necessary for Government to take exceptional steps; this was done by sending grain gradually, but not in large quantities, from Belgaum, and also from Sholapur, and the result, according to late accounts, has been to induce the dealers to do the same, and to cause the local holders to open their stores, and there is now no great difficulty as regards food supply in this district, though it is not yet so well provided for as the more westerly parts of the affected area; this defect, however, is in process of rectification.

Great activity of grain traffic.

14. At the ports of the Southern Mahratta Country the grain imports have also been very large, and have already amounted to 36,812 tons. The roads leading from the ports to the interior, all of which cross the great barrier of the Western Ghats, are crowded with grain carts, and apparently the only limit to the movement is the amount of carriage that can be obtained, and the supply of available forage. Up to the present

Large imports by sea to Southern Mahratta Country.

General
policy of
Bombay Go-
vernment.

time there has, however, been no failure in this respect, and Government are now turning their attention to measures which are calculated to help and facilitate the traffic later on in the season, without directly interfering with the arrangements of the dealers. From inquiries that were made of the grain merchants, it was ascertained that any interference by Government with the transport arrangements, or, indeed, any direct attempt to aid the merchants in obtaining carriage, would only have the effect of increasing the price of cart-hire, and the Government were requested to let matters take their own course. Acting on the general principle which guided them in respect to grain importation, Government therefore decided that it was better to leave the trade to itself; but, as above remarked, they now have under consideration questions connected with the transport (such as the cutting and storage of forage), which, if satisfactorily settled, will materially aid the transport without interfering with it.

15. It may be added that police arrangements have been made for ensuring the safety of the grain while in transit through the country, and Government have also permitted the traders to deposit in the Kutcherries the sums received for the grain sold.

16. Such has been the general policy of the Government as regards grain supplies, and, as above remarked, it has been completely successful up to the present time; and the Government have the gratification of knowing that this policy has received the approval of the Government of India, as expressed in the 12th paragraph of their letter, No. 365, of the 25th of October. This approval was accorded, it may be remarked, at a time when its generally successful result was not so apparent as it has since become.

MEASURES TAKEN TO RELIEVE DISTRESS.

These were—1st, The Organisation of Relief Works; 2nd, The Distribution of Charitable Relief.

Relief Works.

October esti-
mate of dis-
tress to be
anticipated.

17. It was calculated about the middle of October, that the number of persons who might have to be relieved in the three Deccan Districts, Poona, Ahmednagar, and Sholapur, would amount to about 220,000, and that continued relief, or employment, would have to be found for them for eight months; adding the probable number that would require relief in the other six affected districts, it was not safe to reckon that a less average number than between 400,000 and 500,000 persons would require support in some shape during the period up to the next monsoon, perhaps until the next harvest.

18. Assuming that the failure of crops had not been less serious in the Deccan and Southern Mahratta Country than it had been in Bengal in 1874 (it has probably been more serious), and taking, as a basis, the proportions adopted on that occasion, it was afterwards calculated that relief might have to be given at the worst season to about one million of people, *i.e.*, to 20 per cent. of the population of the affected districts, and a rough approximate estimate was made of the outlay that would devolve on the Government, amounting to 1,400,000*l.* At first, *i.e.*, in September and part of October, the Government endeavoured to meet the case by the application of the resources within their own command by using the provincial and local funds, and by anticipating, to some extent, the local resources of the ensuing year, but it soon became apparent that these efforts would only to a very small extent meet the exigency of the case.

19. Many small and scattered works had been undertaken in the period, but about the middle of October it became clear that, if the difficulty was to be met at all, far more serious and extensive operations must be set on foot.

Measures
taken by
Bombay Go-
vernment.

20. It was the opinion of the Government that properly to deal with the crisis in a manner that would ensure the object in view, *i.e.*, the profitable employment of the people, and the avoidance, as far as practicable, of waste of public funds, it was necessary to set on foot works on which large bodies of men could be concentrated, supplied with food, and properly organised and controlled. This view was in accordance with the ruling of the Government of India, laid down in the 12th para. of the Resolution No. 1—59—71, dated 18th February 1875, where it is expressly enjoined that at an early stage of distress "large works should be opened at once, small local works subsequently, as the necessity for them arises."

21. Acting on this principle the Government proposed to the Government of India the commencement of the earth-works of the contemplated railway between Dhond and Manmar—a work which, from its circumstances and surroundings, was recommended to the Government by their officers as especially adapted for affording relief. The proposal was not approved by the Government of India on grounds of general policy,

and this Government at once accepted the decision that was communicated to them. With this work fell also a similar work which this Government had intended to commence for the relief of the Southern Mahratta Country, *i.e.*, that portion of the Karwar and Bellary Railway which lies within the Dharwar Collectorate.

General
policy of
Bombay Go-
vernment.

22. The Government had been informed by the Government of India, in their letter No. 365, of the 25th October, that they had "no desire to impose upon the Bombay Government any restrictions beyond those which are afforded by the experience of the past, as authoritatively recorded by the Government of India," and that they had "the fullest confidence that His Excellency the Governor in Council will exercise the discretion vested in him so as to prevent any loss of the lives of Her Majesty's subjects, without incurring any expenditure of public money in excess of the necessities of the case."

23. Believing that a discretionary power had been thus granted to them, the Government proceeded, under the advice of their responsible officers, to draw out a programme, on a fixed and intelligible principle, of other large operations, both road and irrigation works, the works being so disposed as to provide for each affected district; but when this programme was submitted to the Government of India, objections were taken in detail by the President in Council to several of the proposed works; it was ordered that no work should be commenced in the Irrigation Department likely to cost more than Rs. 30,000 without the previous sanction of the Government of India, and the Government were given to understand, by the tenor of the orders passed, that before any large work could be undertaken, it would be necessary to establish sometimes the necessity for it as a relief work, sometimes its general merits as a necessary improvement.

24. A correspondence then commenced, which is not yet terminated, but Government were compelled, by the necessity of the case, to commence several of the works which were prohibited by the Government of India, feeling sure that, when the subject had been more fully considered by that authority, their action in this respect would be approved, and that it would be seen, and admitted, that they could not have acted otherwise without incurring very grave responsibility, or without possibly endangering the lives of Her Majesty's subjects.

25. This prohibition by the President in Council of the commencement of large works on the principle enjoined in para. 12th of the Resolution of the 18th February 1875 above alluded to, has undoubtedly embarrassed this Government, and has necessitated the prosecution of small local works in large numbers, over which very little supervision can be exercised, and on which there must be much waste of public funds.

26. People who would otherwise starve must be employed, and instead of employing them on large public works, where they could be properly looked after, they are now in many cases provided with work nearly at their own doors, and the result is not only that they do, it is believed, as much or as little work as pleases them, but, what is still worse, many more resort to the relief works than would come if to reach these works they had to travel some distance, and if when they arrived there they were made to work properly. Efforts are being made to get these scattered works into better order, the scale of relief wages has been adjusted more in accordance with the lower and prevailing cost of food, and it is hoped that the Government of India will shortly accord their approval to the commencement of more large works, and will see that the situation is not one which will admit of any delay consequent on nice inquiry into the relative merits of such works, and that as a certain number of persons must be supported, it is a secondary consideration what particular work is undertaken, provided it is a useful one, that it will entail as little after liability as possible, that it has the approval of the local officers, and is suited for relief purposes. One class of works, it may be mentioned, that has been entirely objected to by the President in Council is that of tanks other than those of small dimensions; yet, it is almost self-evident that there is no description of work so well suited for the immediate purpose in view as the excavation of tanks and the construction of bunds, or so well calculated to prevent in their neighbourhood a recurrence of a calamity similar to that which their present construction is intended to mitigate. At this time there are about 250,000 persons on relief works, and they are daily increasing in number, and it must not be forgotten that as the operations advance, and as works are completed, it will become more and more difficult, not only to devise means of employment perfectly unobjectionable, but even to find those which will be moderately beneficial.

Charitable Relief.

27. There have been very few applications for relief of this nature. In October an allowance of Rs. 25,000 was made to the Collectors of the districts marginally noted, of

General
policy of
Bombay Go-
vernment.

Poona, Ahmednagar, Sholapur,
Satara, Kaladgi, Belgaum, and
Dharwar.

Rs. 10,000 and Rs. 5,000 respectively to the Collectors of Nasik and Khandesh, to enable them to provide for the feeble and infirm poor, and for indigent people incapable of performing work ; but up to present time, out of the whole sum so allotted of Rs. 1,90,000, only about Rs. 5,000 has been expended for the purpose for which the grant was made. Later on it will be necessary, probably, to establish poor or relief-houses, and to organise relief committees in communication with a central committee and with Government. Measures are in preparation, but the time has not yet arrived for carrying them out.

Remissions.

28. The subject is under consideration with the Local Revenue Officers of this Government, and it is believed that remissions to the extent of over half a million sterling in the affected districts will be necessary.

Condition of the People, and anticipated Distress.

29. The condition of the people, considering the circumstances, is not unsatisfactory, and their behaviour, with very few exceptions, has been very praiseworthy. It may be hoped that this will continue so as long as employment is found for them, and they can earn money with which to purchase food. As has been stated above, there is no actual scarcity of food in the country, and none is anticipated at present, but there is no employment for the people, and it is this that it is the task of Government to provide. As above stated, 20 per cent. of the population of the affected districts may come on the hands of the Government at the worst period of the year, and of that number probably 10 per cent. will require gratuitous relief or relief in poor-houses in return for light labour. It is probable too that when relief works are of such a character that they can be properly organised and superintended, and can therefore be carried on systematically, when wages are restricted to what will provide a bare subsistence, when labour is exacted from all who can work, and when cooked food is distributed in poor-houses to those who cannot, the numbers that will remain on the hands of Government will be very much reduced.

Government
importation
of grain
unnecessary
at present.

30. The Government do not at present think that it will be necessary to undertake grain importation or transport on any large scale, and they will certainly endeavour to avoid either measure if it be possible to do so. Hitherto, as has been shown above, any interference on their part was not only uncalled for, but would have been mischievous. The Government will, however, carefully watch the state of the trade and of the market, and act accordingly.

Failure of
forage for
cattle.

31. One serious feature of the present distress is the state of the cattle. Owing to the almost entire failure of the crops in some of the districts there has been a corresponding failure of forage, and the owners of cattle have found it very difficult, if not impossible, to find food for their animals.

32. The preservation of sufficient cattle for agricultural purposes is of course a subject of very grave importance, and although the Government could not undertake to import or provide forage for the animals, they have done all in their power to meet the emergency by opening their forest reserves for grazing, by granting free passages for cattle by rail from Sholapur to Poona, and by instructing the Collectors of the Western districts to receive and pass on to lands where there may be grain and water all cattle that may be sent to them from the Eastern districts ; at the same time the Collectors of the Eastern districts have been instructed not to send the weak and useless animals, of which numbers are to be found in every village ; such animals must take their chance ; they are of no use or value, and would only consume the grazing, already too limited, which would otherwise preserve more serviceable cattle.

The water
supply.

33. The long-continued drought has affected the ordinary supply of water, and though no calamity from this cause is anticipated in a country which, like the Deccan and the Southern Mahratta country, is intersected by rivers and streams which all contain water in their beds, yet it is no doubt the case that in many villages the difficulty as regards water supply, which in ordinary years occurs at a later period, will now be sooner and more severely felt. This cause will probably in some villages necessitate migration of the people, irrespective of the migration that has already taken place in connexion with the movement of cattle to distant grazing lands, and with the movements of the people to more or less distant relief works.

(Signed) M. K. KENNEDY, Major-General R.E.,
Secretary to Government.

No. 6.

EXTRACT from LETTER from ACTING HEAD ASSISTANT COLLECTOR to COLLECTOR OF Nos. 14, 221.
BELLARY, No. 16, dated Camp Hindupur, 11th January 1877.

Moreover the influx of a large number of Mysore subjects migrating into our territory Influx of
in families has swelled, and threatens to swell still more the numbers both on our relief Mysore sub-
works and in our relief houses. From the tahsildar's return for the week ending 6th jects.
instant it will be seen that the number has increased to 10,867.

No. 7.

Local. No. 21 E.—86 of 1877. Nos. 41, 65.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to
the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture,
and Commerce.

V.—Establishments.

18th January 1877.

I have the honour to acknowledge the receipt, on the 11th instant, of your letter No. 521, of the 15th ultimo.

General
policy of
Bombay
Government.

2. In reply, I am directed to state that his Excellency the Governor in Council receives with great gratification the assurance given in your 2nd paragraph, that nothing was further from the intention of the Government of India than the withdrawal of the confidence which was formerly expressed as regards the measures adopted by the Government of Bombay to cope with the distress which is now afflicting a large portion of the Bombay Presidency.

3. I am also to convey the acknowledgments of his Excellency the Governor in Council for the recognition of the President in Council, as expressed in your 4th paragraph, of the efforts made by this Government to utilise the provincial and local resources at their command on the first appearance of distress, of the avoidance of interference with the grain trade, and of the success by which these efforts have hitherto been attended.

4. This Government does not forget that on the 20th December, five days after your letter was written, his Excellency the Viceroy, then staying in Bombay, in replying to an address from the Chamber of Commerce, and alluding to the famine, was pleased to observe, "I gladly take this opportunity to express the satisfaction of the Government of India with the manner in which the Government of Bombay is grappling with the difficult task imposed upon it. The principles avowed by that Government as those which will guide its action appear to me to be generally sound and excellent."

5. His Excellency in Council would therefore have been very glad if, after this very flattering expression of his Lordship's opinion, this Government could have abstained from prolonging the correspondence, but there are certain passages in your letter of the 15th ultimo which render it imperative on them to remove all doubt as to the principles they have maintained and the measures they have recommended for dealing with the famine.

6. The 3rd paragraph of your letter summarises the principles which, up to the end of October, had been laid down by the Government of India. One chief principle was, that minor local works should be undertaken in preference to the commencement of large projects.

7. The revenue resolution of this Government No. 5,890, of the 16th October, stated, that the Government had, for the previous six weeks, been ordering minor works, and set forth fully the reasons for considering such works to be totally inadequate to meet the distress which had then evidently become inevitable. This Government, in the 9th paragraph of the same resolution, recorded their opinion, "that in all cases in which, with due regard to sanitation and other local circumstances, it may be found practicable, it will be far more convenient, and in the end far more economical, to select for relief works those of considerable magnitude, which have been well examined and approved, though unavoidably postponed, on which the labour of large bodies of men can be advantageously concentrated. There may be cases in which it may be necessary to have recourse to isolated works of a trifling nature, but these should, as far as possible, form the exceptions."

8. You observe in your 5th paragraph that it would have been desirable to direct the Collectors to commence with minor local works, and to submit programmes of further works of a like nature, and it is on this latter point that the chief difference has unfor-

tunately arisen between the President in Council and the Government of Bombay. Both agree that at the commencement, and while the extent of the evil was uncertain, minor works should be preferred. But as that uncertainty was passing away, this Government were constrained to turn to works of a large character, on which the labour could be more concentrated, and subjected to more efficient superintendence. Moreover, they did not, nor do they now, attach importance to the works on which the able-bodied were to be employed, being close to their own homes; but on the contrary, regard this proximity as a temptation to people who are not greatly in want, to seek relief under circumstances where it may be found without much trouble or inconvenience to themselves.

9. The President in Council was pleased to accept several of the larger undertakings submitted to him by this Government, but his rejection of many of the proposals made for similar works necessarily threw this Government back on minor operations, some of which have been difficult to properly organise and supervise, and are likely to be of little value when completed. Some of the public money which has been expended in relieving distress has not therefore, his Excellency in Council believes, been so well applied as it might otherwise have been, and the last paragraph of your present letter announces that this Government will only be left free to carry out such operations as may be deemed most suitable and necessary after it has furnished returns of the most detailed nature, requiring much time for their preparation. His Excellency in Council considers it necessary to place on record that for this practically unprofitable result his Excellency's Government cannot, in any degree, hold itself responsible.

10. His Excellency in Council will only point out further that on large works the labour and wages tests can be applied with good effect, while on the small works, although the tests can, to some extent, be made available, it is almost impracticable, for many reasons, which need not here be detailed, to secure their full beneficial effect. I am to add that this fact has been fully recognised by the local district officers, and more especially by the Collectors of Poona and Sholapur, who are referred to in your 5th paragraph as having proved the feasibility of finding such minor works.

11. Another principle described as laid down by the Government of India by their letter of the 25th October, was, "that the Government should abstain from making purchases of grain in the general market on its own behalf, except in the last resort." On this point it is only necessary to observe that the Government of Bombay had already, on the 16th October, publicly announced its intention to adopt that course.

12. The instructions contained in your 10th paragraph, have, it seems almost needless to state, been anticipated. Both the Revenue Commissioners are now engaged in visiting the distressed districts, and are in the exercise of such powers as this Government deem it necessary and advisable to delegate to them. These powers do not extend to authorising any outlay of public money without previous reference to this Government, with whom communication is always easy and rapid.

13. I am also directed to state, in conclusion, that this Government fully recognise the paramount importance, on every ground, of exercising the utmost economy in dealing with the distress in this Presidency. His Excellency in Council has never lost sight of

"His Excellency in Council, I am desired to say, is awaiting the receipt of a letter from the Department of Agriculture and Commerce, dated 29th September, of the despatch of which he has been advised in the telegram last quoted above, in which, he understands, he is to receive instructions as regards the provision of funds for famine relief works, and in respect to the incidence of the charge for such works. Some considerable outlay of Imperial money will, no doubt, be necessary, but his Excellency in Council, I am desired to say, believes that, if confidence be placed on this Government, all that is needed may be done without extravagant or lavish expenditure of public money, and without any great ultimate loss or waste."

this necessity; and has, from the first, acknowledged it, *vide* my letter No. 142 C.W.—718, of 9th October last, 5th paragraph, quoted in the margin. This was followed by the Resolution No. 268 C.W.—1,038, of the 13th December 1876, clearly indicating the wish of Government to obtain a reasonable return for the money spent, and making the rate of wages dependent on the price of food for the time being. On the 5th January another resolution was issued, disallowing pay for Sundays; and the Government are at this moment devising measures which they hope will still further diminish the expenditure. No measures have yet been proposed, of the necessity of which for saving life, or preventing excessive or dangerous suffering, his Excellency in Council has not been fully satisfied; and his Excellency in Council, in the future measures he may be compelled to take or to advise, will not fail to bear in mind that he shares, with the Government of India, the responsibility for properly utilising the public funds, and for avoiding all

needless or wasteful expenditure.

No. 8.

No. 401, dated Bombay Castle, 22nd January 1877.

Nos. 23. 66.

From the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY to the ADDITIONAL
SECRETARY TO THE GOVERNMENT OF INDIA.

You will have learnt from my telegram of the 18th instant that, in obedience to the instructions conveyed by your telegram of the 16th instant, the several Collectors have been instructed to make no more promises of remissions of land revenue to the ryots, and I am to state that his Excellency in Council will now await the further instructions of the Government of India on the subject.

Land re-
venue re-
missions.

2. This Government, however, think it their duty to point out that the principle of making remissions final, instead of holding the claims over for settlement in subsequent years, has been consistently acted upon under the revenue survey system of this presidency. His Excellency in Council therefore deemed it desirable in the present case to follow the usual practice; and I am to observe that the resolutions passed by this Government with that intent were discussed in your letters No. 806 and No. 458 of the 3rd and 30th November last, without any indication of a desire on the part of the Government of India that suspension of claim should be substituted for positive promise of remission. The promises have consequently been made in several instances, and must, it is presumed, be carried out; and it will be for the Government of India to consider how far it will be expedient or practicable to have the two systems brought concurrently into operation.

3. Steps will immediately be taken for ascertaining to what extent promises of remission have already been made.

No. 9.

No. 438, dated 22nd January 1877.

Nos. 10. 181.

From the TRAFFIC MANAGER, JUBBULPORE, to the AGENT, CALCUTTA.

BLOCK OF GOODS AT JUBBULPORE.

On the 20th instant there were 400 of our waggons laden with goods for and *via* G. I. P. standing at Jubbulpore for want of engine-power; the yard was blocked, and we had to stop waggons on the Jubbulpore line.

Railway
grain traffic.
Block at
Jubbulpore.

On hearing this, I at once (17-0 on 20th) wired the Deputy Traffic Manager and District Traffic Superintendent, Toondla, to stop booking through, and also advised the traffic manager, G. I. Peninsula and his superintendent at Jubbulpore that our waggons detained at Jubbulpore must be unloaded and contents made over to that company, if they could not be cleared.

Mr. Conder replies 21st, 9-0 A.M.

"There are 330 of your waggons only under load for G. I. P. at Jubbulpore; these will be worked out by Monday; if you will delay sending more until then, stoppage of through booking from your line *via* Jubbulpore and unloaded there not necessary; please withdraw early."

I need hardly point out that this is very vague indeed.

Mr. Conder promises to clear our waggons out if we send no more, and at the same time asks me to withdraw all restrictions on through booking.

At 18-30, on the 21st, there were still 272 waggons on hand, and I see no prospect of the G. I. P. being able to push our waggons *on to destination* and return them in due time unless we give them breathing time, so I have left the restriction in force.

I wired the District Traffic Superintendent, Howrah, and Burn & Co. to day to be prepared for a heavy rush into Howrah, and included your name that you might have early advice.

If the G. I. P. Railway clear off to-day the waggons we tendered them on Saturday, they will have from 1,200 to 1,300 of our waggons on their line.

No. 441, dated 22nd January 1877.

From the TRAFFIC MANAGER, JUBBULPORE, to the AGENT, CALCUTTA.

WAGGONS SENT TO G. I. P.

Railway grain traffic. In reference to my No. 438 of date as to block of waggons at Jubbulpore, and the steps taken in consequence, it may be as well to give you a sample of what we have been doing for the traffic in that direction of late.

I take Cawnpore exports for a fortnight (*i.e.*, the 15 days from 6th to 20th of this month), and find that of 1,359 waggons despatched from that station under load, no less than 635 were sent to and *via* Great Indian Peninsula Railway, and that the daily average stood thus,—

To Great Indian Peninsula	-	-	-	-	42
To East Indian Railway	-	-	-	-	38
To all other stations	-	-	-	-	9
Total	-	-	-	-	89

This is exclusive of through traffic from Oudh and Rohilkhund in their waggons, and it will serve as an illustration, and will show that we have not lost sight of the importance of the traffic to Western India at this crisis, even though the diversion of so many waggons has been a serious detriment to our own local traffic, delay to which is, and has been, causing most serious and well-grounded complaint, as you are aware.

Traffic Statement, Jubbulpore.

Date.	1. East Indian Railway Waggons (Main and Jubbulpore Lines) on Great Indian Peninsula Railway.	2. Waggons on hand at 6 p.m. Daily waiting despatch.	3. Through Waggons loaded for Great Indian Peninsula Railway cut off and detained at Sutna, owing to block of Waggons at Jubbulpore.	4. East Indian Railway Waggons sent to Great Indian Peninsula Railway.	5. Great Indian Peninsula Railway Waggons received by East Indian Railway.		6. Waggons received at Jubbulpore for loading in the direction of Great Indian Peninsula Railway.	7. Goods on hand each Day at 6 p.m.
	Number of Waggons.	Number of Waggons.	Number of Waggons.	Number of Waggons.	Loaded.	Empty.	Number of Waggons.	Number of Maunds.
1st January 1877	529	170	—	22	4	11	8	138,463
2nd "	547	139	—	114	—	7	8	138,463
3rd "	626	131	—	84	3	91	9	138,135
4th "	690	154	—	102	8	23	10	138,017
5th "	733	140	—	120	14	100	8	137,651
6th "	708	88	—	126	4	133	2	137,231
7th "	649	121	—	47	8	120	23	137,231
8th "	653	112	—	99	8	55	5	135,322
9th "	645	116	—	78	6	58	7	135,322
10th "	680	93	—	97	5	68	16	134,659
11th "	709	99	—	80	9	90	25	132,996
12th "	705	90	—	74	7	77	18	131,783
13th "	638	107	—	101	6	138	37	130,930
14th "	589	295	—	38	7	117	37	128,538
15th "	574	239	—	119	11	64	39	125,427
16th "	593	313	—	117	—	61	22	122,534
17th "	649	366	—	148	11	78	27	118,808
18th "	728	399	—	107	9	74	20	115,525
19th "	770	342	—	109	4	104	22	115,098
20th "	762	332	—	108	9	60	27	112,310
21st "	823	316	80	65	5	55	36	110,740
22nd "	865	209	162	112	6	41	57	106,708
23rd "	878	125	177	87	9	143	47	98,431
24th "	825	66	112	58	2	40	18	93,720
25th "	859	124	99	76	5	73	42	91,633
26th "	839	174	4	70	3	44	36	87,939
27th "	827	250	2	87	10	98	39	83,820
28th "	840	251	—	69	6	72	19	80,773
29th "	855	155	—	102	9	80	22	79,601
30th "	841	255	—	103	4	49	25	77,322
31st "	917	184	—	158	14	74	9	76,818
Total	22,546	5,955	636	2,877	205	2,298	720*	3,591,948
Average per day	727.3	192.1	20.5	92.8	6.6	74.1	23.2	115,869

* Of this number, 226 were for goods transhipped, leaving 494 for the grains and seeds traffic; and of the 494, 174 were coaching vehicles carrying 3 tons of goods only apiece.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce.

V.—Establishments.

23rd January 1877.

I have the honour to acknowledge the receipt of your letter, No. 1, of the 5th instant, conveying the instructions of the Government of India, that the restriction which had previously been placed on the organisation and commencement of large works to afford relief during the present distress in this Presidency has, under certain conditions, been removed.

Necessity for commencement of large relief works.

2. One of these conditions is, that no works shall be undertaken unless, in each case, this Government is satisfied by evidence which it considers sufficient, that delay in commencing work will involve serious danger to the lives of the people. On this point all that can be said is, that the autumn and spring crops over a large area in this Presidency have almost if not entirely failed, while in other parts they have been extremely scanty; that the prices of food-grains have consequently risen to an abnormal height; that the mass of the people are very poor; and that those who usually depend on the product of their own small holdings, or on agricultural or other labour for subsistence, are now deprived of their means of livelihood, and would probably fall into very great straits, and starve, if aid were not given to them in some shape.

3. In the early part of the season, before there had been time to organise any relief works, the uneasy movements of the people indicated, if not great distress, at least anticipations of it. In some districts signs of disorder manifested themselves, and had the people been of a less patient and docile temperament, they would probably have broken out into serious rioting. When relief works were opened, numbers flocked to them, notwithstanding that the wages offered were more than 30 per cent. lower than the wages of ordinary years, and that the price of food-grain was over 100 per cent. higher. Under these conditions, there are now upwards of 300,000 persons seeking employment on relief works, the mass of whom, this Government believe, would suffer the most serious privation, and many of whom would probably perish, if employment were not given to them; while it is quite certain that, but for the relief offered them, agrarian disorders, dacoities, and crime of every description would prevail, and the country would be greatly disorganised.

4. If these main facts be considered by the Government of India as supplying the evidence required by them, his Excellency in Council will, I am desired to say, consider that he is free to act under the authority which has been conditionally given to him; if these facts are not held to be sufficient to establish the case, his Excellency in Council begs that it may be so intimated to him, in order that he may pause until he is in a position to offer more conclusive testimony.

5. His Excellency in Council, I am desired to add, has repeatedly expressed his sense of the necessity for the most rigid economy, and has endeavoured to practice it, to the extent he considered permissible under the instructions given him in paragraph 19 of your letter, No. 365, of the 25th October last, viz., that he should "exercise the discretion vested in him so as to prevent any loss of the lives of Her Majesty's subjects without incurring an expenditure of public money in excess of the necessities of the case." His Excellency in Council feels strongly that the obligation which rests on him of properly and economically administering the public funds is not less in degree, though it may be less in extent, than the obligation which rests on the Government of India itself; that in fact, in common with all other public officers administering the resources of the State, it is his duty to enforce such careful and prudent economy as may be compatible with good and efficient government. It is, therefore, no small cause of satisfaction to his Excellency to find that not only this principle, but also all the others which he has endeavoured to enforce from the commencement for dealing with this Famine, is adopted by the Government of India, and embodied in their letter of instructions to Sir Richard Temple. There is, however, undoubtedly one exception of the utmost importance. This Government has been acting on the assumption that no person was to be allowed to die of starvation if the Government could prevent it. But the letter to Sir Richard Temple says, "even for an object of such paramount importance as the preservation of life, it is obvious that there are limits which are imposed upon us by the facts with which we have to deal." The Government of India cannot fail to appreciate the extent to which this limitation, however sound in

List of relief
works pro-
posed to be
set on foot.

itself, must increase the responsibility of the local Government in controlling relief operations.

6. I am now to state that, subject to the stipulation made in my 4th paragraph, his Excellency in Council proposes to proceed with the following works as soon as he is satisfied that the time has arrived for providing the means of relief which these works are calculated to afford:—

(a.) *The Malsej Ghaut.*

(b.) *The Nira Canal.*—On the subject of this work I am to refer you to page 5 of the statement which accompanied my No. 309, C.W. 1,110, of the 23rd ultimo. The complete project is ready, and will be submitted, together with a proposal for the modification of the entire scheme to secure a canal for monsoon irrigation as a distinct project to afford relief. This modified scheme is calculated to cost Rs. 19,52,000 to provide water for the irrigation of 56,849 acres, and to yield a net revenue of 4·4 per cent. This work will provide employment for about 30,000 people for six months. The line of canal traverses the Purandhur, Bhimthari, and Indapur Talukas of the Poona Collectorate, one of the driest parts of the Deccan. There are already over 30,000 persons employed on small scattered works under the Collector, for whom it is most difficult to find profitable employment.

(c.) *Dhond and Ahmednagar Road.*—This work is already in progress, and cannot be stopped; on the contrary, it will be necessary to grant further funds for it when the amount already allotted—from which a sum of Rs. 20,000 was temporarily transferred to the continuation of the same road north of Ahmednagar—has been expended. There are now employed upon it 4,378 people.

(d.) *Metalling the Mail Line between Poona and Hurryhur.*—This road traverses the Collectorates of Poona, Belgaum, and Dharwar, and the State of Kolhapur. The work will probably be required for extensive relief later in the season. It has the advantage of being placed in a part of the Presidency where the local distress is not great, where the water-supply is ample, and where communication, and consequently food transport, is easy. It is a work also that can be stopped at any moment without involving any after liability, and, on these grounds, it is one peculiarly fitted for relief purposes. This Government have always reckoned on this work as affording a large reserve for relief purposes; and, under the authority now granted in your letter under reply, will hold themselves at liberty to proceed with it, when occasion arises, to any extent that may be needed.

(e.) *Dholkheir and Bellary Road.*—Under the authority granted in your letter, this work will be proceeded with to the extent of the original grant, or to a greater extent should it be necessary to do so. It is not known to this Government that there are many cross-roads in the Kaladgi Collectorate requiring improvement. Certainly there are no such cross-roads which would be more useful than the completion of this through line, or which would afford better means of relieving the distressed persons of the district. It is not at this stage (and it is believed that the Government of India will admit this to be the case) desirable to provide work for the people at their very doors. The vast number of persons—some of whom are not thought to be in great distress—which the prosecution of small scattered works have brought on the hands of this Government, are the cause of great anxiety, and his Excellency in Council has adopted every means that have suggested themselves to him to put a stop to this evil, short of organising the relief works on a more efficient and concentrated scale, and this, in consequence of the orders he has received, he has hitherto been unable to do to the extent that he considered desirable and necessary.

7. Small cross-roads are, for the reasons just stated, objectionable, and, for the same reason, minor tank-clearances are not advisable. Good enough at an early stage of distress, when the numbers of applicants for relief are not large, these small roads and clearances are unprofitable at an after period, when strict and complete organisation becomes imperative to save great waste of public funds. The small tanks have also this inherent disadvantage, that they are useless as regards prospective droughts unless they can be cleared (as is very seldom the case) to hold two or more years' supply. A tank containing only one year's supply is useless in season of drought, when it does not fill, and it is not very greatly needed in good seasons. Large irrigation works, especially tanks and storage reservoirs which contain two or more years' supply, are, perhaps the most suitable works to undertake for famine relief, not only because they usually involve

heavy earthworks, but because they tend in their immediate neighbourhood to prevent a recurrence of drought; such works usually cost more than Rs. 30,000, and his Excellency in Council now acknowledges gratefully the removal of the restriction that had previously been placed upon this class of works. Were it in his power, his Excellency in Council would gladly undertake works of this character in preference to any others, but it is difficult to find suitable locations, for it is only a concurrence of favourable circumstances as regards rain-fall, configuration of ground, and the like, that renders works of this class possible. It is a fortunate circumstance that the investigations of former years have placed within reach a few of such works on the present occasion.

Proposed
irrigation
relief works.

8. In addition to the tank works which have already been undertaken, his Excellency in Council will, as occasion arises, proceed under the authority now given with the following :—

The Shersoful, Mullet, and Patus tanks in the Poona Collectorate.

The Ojhar Canal extension in the Ahmednagar Collectorate.

The Doni tank in the Dharwar Collectorate.

The Banknari tank in the Kaladgi Collectorate.

The Krishna Canal extension in the Satara Collectorate.

The Chunkapur tank in the Nasik Collectorate.

The Bhokur and Dymel tanks in the Khandesh Collectorate.

9. Information as regards these works is given in the statement which accompanied my No. 309, C.W. 1,110, of the 23rd December, and I am to add that, as regards the Bhokur tank, the work now contemplated is not the large project which was before the Government of India in 1872, and deferred from want of funds—*vide* the Government of India's letter, Public Works Department, No. 917 I., of 22nd November 1872—but a smaller scheme, involving the restoration of an old irrigation work, calculated to cost about Rs. 84,000, nearly the whole of which is for earthworks, and to secure a probable net revenue of 5 per cent. In addition to this work, it may also become necessary to undertake the Gokak Canal in the Belgaum Collectorate, which was not included in the original programme of works by this Government. This canal, for which there are complete plans and estimate, is calculated to cost Rs. 9,62,307, and it will carry water sufficient for the irrigation of 38,200 acres.

10. I am now to observe that, should the distress in this Presidency continue to increase, and should the measures which have been adopted by this Government, as regards the labour and wages tests, and the careful examination of applicants for relief, not have the effect of checking the rapid accumulation of persons on relief works, it will become necessary to undertake still more extensive operations than any of those adverted to above, and the only effectual measures which suggest themselves to this Government are the commencement of the Dhond and Munmar Chord line, connecting the two branches of the Great Indian Peninsula Rail above the Ghauts, and the Karwar and Bellary Railway. A proposition has already been before the Government of India as regards the first-named work, and has been rejected by them; but it is understood from paragraph 8, sub-head a., of your letter, No. 521, of the 15th December, and also from the general tenor of your letter, now under reply, that the Government of India are not unwilling to re-open the subject should occasion arise for doing so.

Again urging
importance
of Dhond-
Munmar, and
Karwar-Bel-
lary lines.

11. Not to encumber the text of this letter, I am directed to attach a memorandum respecting each of these railways, containing information as regards its cost and conditions of execution, as well as the extent of relief it is calculated to afford, and I am to add the following observations :—

12. The Dhond and Munmar Railway will afford ready means of relief in three districts, Nasik, Ahmednagar, and Poona, in which there are already 99,273 persons employed on relief works, many of which are small and overcrowded. It will also afford relief to the people of Sholapur, where there are already 1,18,700 labourers on the relief rolls.

13. On the earth-works of this railway, relief labourers can be properly organised, supervised, and tasked, and the line is admirably situated as regards food and water-supply. If even it be considered unadvisable for the present to carry out the line to completion, it would still, in the opinion of this Government, be better to undertake the earth-works, which, at some period will be worth the full amount of money that may now be spent upon them, rather than to fritter away an equal sum on useless works, such as cross-roads and tank clearances, which are not needed; on the earth-works of this railway a fair proportionate return for the money spent can be secured, which cannot be done on scattered village works.

Dhond and
Munmar
railway.

14. Of course his Excellency in Council would greatly prefer to see the Chord line commenced and completed without check or stoppage, but if this cannot be at present done it would still be a measure preferable in every respect, and economical as regards the further prosecution of a work, which some day or other must be done, to employ the persons for whom Government must find occupation in making the cuttings, which will remain for years without deterioration, and throwing up the embankments, which will also stand without material loss or damage, if stopped short of the influence of flood-water at the river crossings and if protected at such points.

15. Apart from the great and obvious political and military advantage of connecting the two great branches of the Great Indian Peninsula Railway above the Ghats, and thus connecting the whole northern and southern system of railway communication of India, there is this further consideration, that, in the event of famine or scarcity prevailing in any part of India at a future period, such as now prevails in the southern part of the continent, this Chord line would be of very great value.

16. The experiences of the present season are sufficient to establish this point. The Great Indian Peninsula Railway, chiefly from having been compelled to work an enormous traffic over both its weak points, the Ghat inclines, has been unable to deal effectually with the grain that has come upon it. Engine and waggon stock have run short, there has not been enough station and siding accommodation, and the staff has proved insufficient, especially as regards engine-drivers. The railway has carried 857 tons of grain per diem on an average for 82 days, nearly the whole of which has been forced down the Thull and up the Bhore Ghats; it is still carrying at the same rate, and it may be safely said that if the Chord Line from Dhond to Munmar had been in existence the railway would have been able to convey double the quantity it has done to the affected districts, and would also have enabled the traders to deliver at cheaper rates. Much too of the valuable food-grain, stated to have been recently damaged and destroyed by rain in the North-west Provinces, would have been preserved to its owners and for the use of the people suffering from distress. This grain, as the Government of India is aware, had accumulated at stations where there was insufficient shelter for it, having been offered in such quantities that the railway could not carry it away.

17. What has proved to be the case as regards the grain traffic may some day operate as regards military movements; and should any such occasion arise, the necessity of dealing with two such obstructions as the Ghaut inclines may be found to exert a very detrimental, possibly a fatal, influence on movements that may be of the utmost importance.

18. The line from Dhond to about 10 miles north of Ahmednagar has been finally located and is approved by this Government; the further portion has been surveyed, but not yet finally located; this can, however, be done while the first portion is under construction.

Karwar and
Bellary rail-
way.

19. The Karwar and Bellary Railway has already formed the subject of a correspondence, which ended with the Government of India, No. 2,133 R., dated 5th September 1874, estimates have been framed, and the line has been surveyed. On the subject of this railway, I am to refer you to my letter, No. 367 (railway), dated 16th March 1874. All necessary details regarding that portion of the line which is suitable for meeting the present emergency in the way of relief are comprised in the accompanying memorandum.

20. It is believed that the Madras Government are desirous of undertaking the earth-works of this line, as a means of providing employment for distressed persons in the Bellary and the adjoining districts. The work has, therefore, the merit that it would materially aid two or more districts in two presidencies, and when completed, it would not only, as has been shown in the previous discussions in respect to it, be a valuable commercial line of communication likely to return fair interest on any money borrowed for its construction, but in future season of scarcity or famine in the Southern Maharatta country, it would greatly add to the power of the Government and of the people to deal with, and meet failure of crops.

21. In Dharwar there are already 30,000 people on relief works, in Belgaum 27,000, and in Kaladgi 41,000, and these numbers are increasing and probably will continue to increase.

22. His Excellency in Council does not, I am desired to say, propose the immediate commencement of this work, though there is reason to apprehend that, if not commenced shortly, many small scattered works must be undertaken, on which it is probable that much money may be wasted.

23. It is probable, however, that the Government of India will be inclined to deal with this question on a general review of the measures to be adopted in both this Presidency

and in Madras; and I am, therefore, desired to say that this Government will be prepared to carry out their portion of the line on learning from the Government of India that they have permission to do so, and they are of opinion that it would be a wise and prudent measure to commence it at an early date.

Dhond-Munmar, and Karwar-Bellary railways.

24. Should the Dhond and Manmar and the Karwar and Bellary Railways, either or both, be undertaken, it will be necessary for this Government to indent on the Government of India for officers to form the engineering staff that will be required to properly supervise and carry out the works.

25. As regards the 5th paragraph of your letter, I am to state that his Excellency in Council understands that the stipulation it contains would not apply to works of Imperial character, such as the Dhond and Munmar Chord Rail line, and the Karwar and Bellary Railway; and as regards the rest, I am to observe that, in applying to them any principle which the Government of India may deem equitable in respect to provincial responsibility for meeting the charges for extraordinary public works, it will not be forgotten that these works are not voluntarily undertaken by this Presidency, but have been forced upon it under circumstances which have left its Government no choice but to undertake an outlay, which, on other similar unhappy occasions, has been met, and provided for mainly as a charge against the general Imperial revenue of the Empire.

26. In conclusion, I am to add that it is of the utmost importance that this Government should be informed, at the earliest possible date, whether or not the Government of India are prepared to permit the commencement, when needed, of either or both of the two railways. As, in the event of refusal, this Government will be immediately obliged to apply itself to the very difficult task of seeking for the means of other suitable employment for very large bodies.

DHOND AND MANMÁR RAILWAY.

Standard Gauge.

	Distance.	Miles.
Dhond to Nagar - - - - -	-	47½
Nagar to Manmár - - - - -	-	84½
Total - - - - -	-	132

Probable cost, 90 lakhs.

Receipts, Rs. 8,32,920.

Working expenses at 60 per cent., Rs. 4,99,752.

Net profits, Rs. 3,33,168, or about 3·7 per cent.

Number of people it will employ for five months, from Dhond to Nagar, 37,500 persons; for three months, from Nagar to Manmár, 110,000 persons.

HUBLI AND BELLARY RAILWAY.—METRE GAUGE.

Summary.

	Distance.	Miles.
Kirwatti to Hubli - - - - -	-	29
Hubli to Gudduk - - - - -	-	35
Guduk to Tungabuddra - - - - -	-	49
		113
Tungabuddra to Bellary - - - - -	-	42
Total miles - - - - -	-	155

Probable cost, 93 lakhs.

Probable receipts, Rs. 9,30,000.

Working expenses at 55 per cent., Rs. 5,11,500.

Net return, Rs. 4,18,500, or 4·5 per cent.

Number of people it will employ for five months, from Kirwatti to Tungabuddra, 35,000.

Tungabuddra to Bellary, 12,000 persons.

No. 12.

Nos. 15. 66. XX.—MEMORANDUM by Mr. BERNARD, Secretary to Sir R. Temple, on the CONDITION and PROSPECTS of the MADURA DISTRICT as ascertained by SIR RICHARD TEMPLE at his CONFERENCES with LOCAL OFFICERS during the 22nd and 24th January.

Tinnevely, 23rd January 1877.

Madura District.

At Madura Sir Richard Temple had the advantage of meeting—

Mr. McQuhae who has been Collector of the district for several years, but who only returned from furlough a month ago and had not yet inspected the more distressed parts of the district.

Mr. Turner, C.S., who has been for some time in charge of the Ramnath semindari, under the Court of Wards, and who is now Relief Officer of the district; two Deputy Collectors and the Sub-judge, who had served long in the district, and also the Tahsildars of the Dindigul and Madura taluks.

2. The district of Madura has an area of 9,502 square miles, and a population of 2,266,615 persons; it is traversed by the Southern Madras Railway. Somewhat less than one-half the district belongs to Zemindars, with the administration of whose estates the Collector has but little concern. The ryotwari portion of the district, managed by the Collector on behalf of Government, is divided into six taluks and contains a population of about 1,300,000. In the north-west of the district are the Pulni and other hill ranges which are sparsely peopled; from Madura town southwards and eastwards to the sea coast the country of the great zemindaris is open and flat.

3. The average rainfall of the cultivated part of the district is 34 inches; during the past season the rainfall has been in some places as little as 5 inches, and nowhere has it been half the average. In ordinary seasons Madura gets a fall of from 4 to 6 inches in April and May, a fall of 6 to 10 inches in July and August, and a fall of about 13 inches in the October or latter rains. During the past season the district got the April rainfall only. The rain fell unequally over the district; thus, while Ramnath, as a whole, fared very badly, a belt of land 10 miles broad along the coast was favoured with good October rain. The parts where the rainfall was shortest are the whole of the Palni taluk, the north (about one third) of Dindigul taluk, and the southern half of the Ternmangalam taluk, and nearly one third of the great Ramnath zemindari. In these tracts no rain fell after August, and no crop at all has been secured save under wells and river channels. The tanks in these tracks are all rain-fed (as distinguished from river-fed), and they are dry; so no crops have been saved by tank-water. In the rest of the district the failure of rain was not so utter; still the dry crop was extremely poor, where it did not wholly fail. Fair crops have been secured under wells and river channels.

4. The area under different kinds of cultivation and under the main food crops is, in ordinary seasons, as follows:—

	Acres.
Under well irrigation	22,150
Irrigated from river channels	20,183
Sown with rice	137,511
Sown with cumboo (bajra millet)	98,849
Sown with cholum (jowari millet)	162,794
Other food grains	300,000

As there are such great variations in the circumstances of the different taluks, the Collector has difficulty in offering a general estimate of the out-turn for the whole district. He would put—

The dry crop yield at perhaps	1 anna all round.
Wet crop	2 annas under tanks.
Ditto	10 annas under irrigation channels.
Crop-irrigated from wells	12 annas;

and he would put the average yield of the district at a 3-annas crop, or something less than one quarter of an ordinary good yield.

5. The ryots and the people of the Madura District are in ordinary times prosperous, save in part of the Shevagunga zemindari in the south-west corner of Ramnad, where the crops often fail. Even this year the ryots are keeping on and supporting their regular farm servants (pádials) everywhere except in a part of the Palni taluk; still there are a good many ryots, 94,000 out of 129,000, who hold less than seven acres a piece. The population living by daily labour and the prædial serfs (pádials) constitute about one

fourth of the whole population. Pressure on the lowest classes has been considerably relieved by an unusually large emigration of labourers to the coffee lands of Ceylon. Madura District.

6. The ordinary food of the people is cumboo (bajra), ragi (small millet), and cholum (jowari); in parts, the poorer classes consume a very coarse millet known as *black cholum*. At present all the larger markets are well supplied with grain, principally foreign rice from Bengal; in parts of the south there is black cholum to be had, but the quantity of this grain in the district is not large. Several cases have already come to the Collector's notice in which the supply of grain was not equal to the local demand; still there is food in the district for those who have money to buy, and the Collector believes that private trade will sufficiently supply local needs, though occasionally petty dealers may not be quick enough in supplying the wants of remote localities. Roads are good, and there are plenty of carts. Madura dealers are men of capital and enterprise, and they are already importing grain direct to the petty district ports, such as Kilakari, and bringing it up to Madura.

7. The food crops of the two previous years (1874-75 and 1875-76) in Madura were fairly good all round. Last summer there was at one time promise of a good ragi crop, and much of the old ragi stocks was exported to Mysore, where the need was then great. Stocks of common local grains are believed not to be large, but there is already a good deal of foreign rice in the district. Prices at Madura are now quoted at—

	Number of Seers per Rupee.	
	13th January 1877.	Average of the Season in ordinary Years.
2nd sort rice -	7 $\frac{3}{4}$	16
Cholum (jowari) -	8 $\frac{1}{2}$	29
Ragi (small millet) -	10 $\frac{3}{4}$	35

In the interior prices are much the same, except in the Dindigul taluk, where they are a little dearer. Black cholum is still for sale in the south of the district at 16 seers per rupee; it is eaten by the poor only, and the supply will not last long.

8. At present there are but few labourers on relief works. Local fund undertakings have been pushed forward, such as the clearing of tanks and other such works debitable to the "village improvement fund." On these works people are made to give full tale of labour. In the south of the district and in the Palni taluks some few relief roads were opened; and other works, such as tanks and roads, are ready marked out. The total number of real relief labourers is only 5,531; the numbers decreased a fortnight ago, but are now increasing again. The Collector expects a rush of labourers on the works in the south, where the people are very badly off, and for two months past some of them have prayed to have relief works opened. If it had not been for the outlet by emigration to Ceylon, there would have been danger of starvation down there before now. The Ramnath zemindari is under the Court of Wards, and it can afford to find work for its own people, provided Government will sanction the Collector's proposal to suspend (not to remit) a portion of the Ramnath tribute (peshkush). If these arrangements be sanctioned, then the Collector would hope that the total number of relief labourers chargeable to the State will not exceed 20,000* during the worst times of the Madura district. If seasonable rain falls in April (and Mr. Nelson's Madura manual shows that in average years 5 or 6 inches fall between April and May), then the people will leave the works and go off to their fields. If no April rains fall, then there may be disaster, and as many as 100,000 people might possibly come upon the relief works. But if the coming season be ordinarily prosperous, Mr. McQuhae hopes that the number of relief labourers will not exceed 20,000.

9. The rate of wages on the relief works is two annas a day for an adult male, and a fair tale of work is exacted from the labourers. In Madura town in ordinary times no man will accept a day's work under four or five annas a day; and though wage rates in the interior may be a little cheaper, still the Collector thinks that a man of the Madura district must be feeling some pressure before he goes on relief works at two annas a day. People who have, as yet, come on the relief works were not in a specially depressed physical condition.

Madura Dis-
trict.

10. In the town of Madura the distribution of gratuitous relief from private charity has begun. In the Palni taluk gratuitous relief, in the shape of cooked food, is being given to some 900 persons at Government expense. The Collector is inquiring into the necessity for continuing this relief. The tahsildar stated that some of the people,—infirm and aged persons from the surrounding villages,—who came for this relief were in a very destitute state.

11. Up to the present time there has been no very great difficulty in maintaining the cattle. There is still some pasture in the tank beds, and in the withered rice and cumboo fields. But difficulty will certainly be felt in Ramnath, and in the Madura, Meloor, and Terumangalam taluks, and in parts of the Shevaganga Zemindari, if showers do not come. Slight showers, such as usually come in Madura at this time of year, will produce enough pasture to keep the cattle alive.

12. In parts of Ramnath the people will have difficulty in getting water to drink. They may sometimes have to go four or five miles for it. Still water will not absolutely fail.

13. The Collector expects to have to suspend 15 lakhs of land revenue out of a total demand of 24 lakhs. The whole of the zemindari tribute (peshkush) will eventually be collected. But according to the revenue custom of the Presidency, the Government is

* NOTE.—So the Collector of Ma-
dura says.

more or less bound,* though not absolutely pledged, to remit land revenue due on "wet" lands, which have failed to get any crop by reason of failure of the tank water.

The Collector cannot as yet precisely say how much this may be. According to the revenue customs of the Presidency, a good deal of the suspended revenue, due from dry crop lands, would also be eventually remitted.

No. 13.

Nos. 19. 92. PROCEEDINGS of the GOVERNMENT of BOMBAY in the PUBLIC WORKS DEPARTMENT, dated Bombay Castle, 23rd January 1877, No. 92.

Extra en-
gines for
grain traffic.

READ.—The following telegram from the Director for State Railways, to the Consulting Engineer for Railways, Bombay, dated 22nd January 1877.

"Please arrange with Peninsula Company to have the 12 engines, purchased for State Railways, erected immediately, and kept available in Bombay for the present in running order."

RESOLUTION.—To be communicated to the Consulting Engineer for Railways, and Agent, Great Indian Peninsula Railway Company, for information and guidance. The Agent should be requested to submit an estimate for erecting the engines, and, if possible, to put the work in hand immediately. If the Locomotive Superintendent, Great Indian Peninsula Railway Company, cannot undertake the work, the Baroda Railway Company should be asked to do so.

No. 14.

Nos. 35. 221. EXTRACT from LETTER from ACTING HEAD ASSISTANT COLLECTOR, to the COLLECTOR OF BELLARY, No. 34, dated Pennakonda, 23rd January 1877.

Migration
from Mysore.

With reference to your letter No. 1,978, dated 16th December last, I have the honour to enclose a statement exhibiting the numbers and distribution of Mysore Coolies who have been resorting to my relief works. This shows a total of 17,618 in my three taluks, but from what I have personally seen of them I am inclined to think their number is understated.

* * * * *

There are considerable numbers of Mysore paupers now being fed at my relief houses. These I have not liked to turn away in common humanity, and I am getting a return of the numbers fed at each of my relief houses, which I will submit shortly for your information and orders. I think I informed you demi-officially that I had, on the 10th instant, counted 1,321 of them at the Hindupur relief house alone. I regret to report that three cases of death from starvation, two in Hindupur and one in Madaksira, have within the last few days come under my notice. These three persons were Mysore paupers who had dragged themselves to these relief houses in the last stage, and though they were cared for immediately, I am satisfied they were beyond saving.

No. 15.

XXI.—MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, on the CON- Nos. 16. 66.
DITION and PROSPECTS of the TINNEVELLY DISTRICT, as ascertained by SIR RICHARD
TEMPLE during his visit of the 24th January.

Tinnevelly, 24th January 1877.

At Tinnevelly Sir Richard met Mr. Stewart, the Collector, who has had five years' Tinnevelly
experience of the district, and at Tuticorin he met Mr. Davies, the head assistant in district.
charge of the southern taluk of the Tinnevelly district.

2. The Tinnevelly district contains an area of 5,176 square miles, with a population
of 1,693,979 persons. It is traversed from end to end by the Madras Railway. The
(ryotwari) tracts administered directly by the Collector are divided into nine taluks;
while the 22 zemindaris constitute one quarter of the district. The zemindaris are
mostly situate in the distressed tracts. Some of the zemindars are poor and unable to
do much for the support of their people in the present year; others, and especially
Ethiapoorum, which is now under the Court of Wards, can afford to find works for the
relief of their tenantry. The zemindari tribute (peshkush) is said to be about two thirds
of the gross rental, so that Tinnevelly zemindars have not so large a margin of profit
as in North Arcot and other districts.

3. The district is divisible into two distinct sections,—

- (1) the valley taluks of Tenkarai, Tinnevelly, Tenkasi, Ambasamudram, where the
lands are for the most part irrigated, and where crop after crop is taken off the
ground, which is bare for only about two months of the year. These irrigated
taluks are the most thickly peopled;
- (2) the black soil taluks, where there is comparatively little irrigated land, and where
in ordinary years dry crops of cholum (jowari) and cotton are grown.

The average rainfall of the lowlands of the Tinnevelly district is about 20 inches; at
Tuticorin on the Coromandel coast it is as low as 10 inches. During the last season
the rainfall was in some places as low as 5 inches, and did not anywhere exceed half the
average fall of ordinary years. The area of failure of crops is nearly identical with the
unirrigated section of the district. The yield is estimated at—

In the irrigated taluks—wet crop, 14 annas, full crop; dry crop, 4 annas, quarter
crop.

In the dry taluk—wet crop, 1 anna, no appreciable crop; dry crop, 3 annas, nearly
a quarter crop.

The Collector is unable to offer a correct estimate of the yield for the whole of the
district because the variations are so great in different parts, but perhaps the yield of the
whole district might be put down at about 6 annas, or $\frac{2}{3}$ of a good harvest.

4. The yield of the previous (1875–76) harvest was fairly good all round, while the yield
of 1874–75 was good. Stocks are supposed not to be large; but the rice now ripening in
the irrigated taluks will, the Collector estimates, give food enough for the whole district
for at least four months. The ordinary food of the people is rice over a great part of
the district, but in the dry crop taluks cholum and cumboo are the staple food. The
breadth put down with the main food crops in the last ordinary year in 1875 was—

Rice	-	-	-	-	212,000 acres.
Cholum (jowari)	-	-	-	-	66,000 „
Cumboo (bajra)	-	-	-	-	195,000 „
Samary (small millet)	-	-	-	-	169,000 „
Ragi	-	-	-	-	49,000 „

The area sown with cotton was 150,000 acres; during the present year the cotton
yield will be very small indeed.

* The imports of grain into Tuticorin have been—

—	During December.	During first 20 days of January.
	Tons.	Tons.
Rice - - - -	984	1,532
Paddy (rice with the husk on)	—	132
Cumboo (bajra) - -	32	276
Cholum (jowari) - -	—	9
Total - - - -	1,016	1,949

5. All the district marts are well supplied
with grain. The district possesses plenty
of carts for inland traffic; and ample ship-
ping comes to Tuticorin for the maritime
trade. At one time the supply was short
in places; but during the last few weeks
foreign rice has been coming largely into
the district* by the port of Tuticorin from
beyond the sea. The Collector believes
the food supply will be maintained every-
where by private trade. The earliest crop
of next season will not come in until

Tinnevely
District.

September; no harvest will be reaped in August. The present and the ordinary prices of some of the cheap food grains in Tinnevely town are quoted thus :—

	Present Price.	Ordinary Price.
Rice	7½	11 seers per rupee.
Cumboo (bajra) -	11½	23½ "
Cholum (jowari) -	7½	24 "
Ragi -	12	27 "

At marts in the interior of some of the distressed tracts prices are 20 to 30 per cent. dearer; and four weeks ago, before the trade from across the sea set in, prices were quite 20 per cent. dearer than they are now.

6. In ordinary years the people of Tinnevely are well off; the ryots have a high "standard of comfort;" and in the irrigated taluks they are sometimes quite wealthy. A large proportion of the ryots, however, have small holdings of three to seven acres each. The Collector estimates that about half the population of the taluks affected by failure (say 400,000 out 900,000) are daily labourers and farm servants. One great outlet for the poorer classes of Tinnevely is the labour-field of Ceylon, whither tens of thousands go to work on coffee estates and other farms. The day Sir Richard Temple was at Tuticorin, he saw some hundreds of Ceylon Coolies returning after their six months' working season. This year emigration to Ceylon is greater than ever.

7. As yet the condition of the people even in the distressed taluks is by no means depressed. But some weeks ago it became clear that in the distressed taluks were a certain number of people who had not emigrated, had no food and no means of earning any. Accordingly works were opened, and about 2,500 labourers are employed on roads and irrigation channels under the civil officers. The engineer officers help in supervising, and task-work is rigorously exacted from the labourers. Works have been sketched out costing—

8½ lakhs for road work.

2 " " irrigation channels.

¾ lakh for miscellaneous improvements.

7. There is no very large work in the district on which a great number of labourers could be usefully employed. But Tinnevely relief labourers could be taken to the Periyar scheme in Madura, if it were not for the extreme unhealthiness of those valleys in the hot season. The Collector estimates that at the worst time he may have as many as 100,000 persons on relief works; that time will be in May and June, for he considers that the people will not leave to begin ploughing until late in the month of June. The Collector will keep down the numbers on the works as much as he, with safety to the people, can. But there are in the distressed tracts very large numbers of families who can have no means of earning a living off the works.

8. The rate of wages on the works is two annas a day to male adults, and to women and children proportionately lower, as ordered by the Government. The Sub-Collector at Tuticorin appeared to contemplate purchasing a certain quantity of rice for Government and paying the relief labourers in grain. But if the markets are sufficiently supplied, these arrangements will, under present orders, not be required.

9. No relief houses for distributing gratuitous relief at the State cost have yet been opened. About Rs. 500, however, have been spent on such relief by village officials,* who are directed to relieve temporarily casual cases of clear distress and to send in the bill to the tahsildar. The precise number of persons so relieved up to date cannot be stated. If matters get worse, relief houses will have to be opened; but no estimate can be furnished at present of the probable total numbers who may hereafter want relief. There is a private relief house at Vendipattam, and the recipients are mostly the infirm and feeble and the beggars of the neighbourhood. No cases of starvation have been reported up to the present date.

10. There has not been much loss yet among the cattle. But no doubt the supply of fodder is very short. Some cattle from the western taluks can go to the ghât pastures. But in the south there will be loss of cattle, for, unless plentiful showers come (which is not probable) there will soon be no pasture at all in the black soil taluks.

* Called village moonsifs in the Tamil districts.

11. Failure of water-supply has not yet been felt to any severe degree. But during the hot months there will be difficulty about water in the unirrigated taluks. Still the Collector anticipates that people will generally be able to get water for themselves and cattle if they go three or four miles at most for it. There may thus be often dearth of water and difficulty in getting it, but still it will be obtainable.

12. The Collector estimates that he may have to suspend 12 lakhs of land revenue out of a total demand of 27. Probably out of this, 3 lakhs, the estimated (roughly) assessment on wet lands, which got no crop, may have to be remitted. Remissions of the abkaree (liquor excise revenue) will not be absolutely necessary, as the revenue is leased for a term of years, and a bad year might be set off against good ones. The Collector, however, may find it expedient to recommend some remission. The salt revenue as yet is coming in satisfactorily.

Tinnevely District.

No. 16.

XXII.—MINUTE by SIR RICHARD TEMPLE, dated 24th January 1877.

No. 66.

In presenting the* accompanying memoranda of facts ascertained in the districts of Madura and Tinnevely, I desire to offer the following observations:—

Madura and Tinnevely Districts.

*Nos. 12. 15.

2. In both these districts, which in ordinary years have such unfailing harvests, there has been an extraordinary drought, which has destroyed nearly all the crops throughout this large area, save in a few parts which are irrigated by watercourses from certain rivers. It is probable that in both districts the stocks of grain are considerable, being the stores reserved after previous harvests. Both districts are permeated from end to end by railways; in both districts the grain trade is very active, and the markets are well supplied; the agricultural peasantry are fairly well off; the prices of grain range at about eight Government seers the rupee. In both districts distress is thought likely to occur as the season advances; already here and there are signs of trouble.

3. Now, in these two districts, so much alike in general features, there is a remarkable difference in the anticipation formed by the two Collectors regarding the amount of relief which may become necessary. In Madura, the late Collector Mr. Horsfall thought that relief might have to be given to 100,000 persons during the worst season; but the present Collector Mr. McQuhae now thinks that the number need hardly exceed 20,000. Even if this comparatively small number shall be exceeded, he hopes that the total will not rise considerably, provided always that the usual showers fall in April. If these early rains shall not come, then, of course, the case may be worse. On the other hand, the Collector of Tinnevely thinks that it may be very desirable to afford relief to as many as 150,000 persons during the worst season; but when considerations of economy are urged upon him, he seems to think that relief might possibly be restricted to 100,000 persons. Now, how can this difference in the opinions of the two Collectors be accounted for? certainly not by any essential difference between the condition of the two districts. If any thing, the Tinnevely estimate might have been expected to be lower than the Madura estimate: *firstly*, because the Tinnevely population is less than that of Madura, being 1,700,000 as compared with 2,300,000 persons; and *secondly*, because the position of Tinnevely is slightly better than that of Madura, the Tinnevely district having the advantage of a seaport—Tuticorin—which Madura has not, and having irrigation from the Tambrapúrni river—somewhat superior to the irrigation from the Vaigai, the river of Madura.

4. I believe that the difference between the two estimates partly arises in this wise. In Madura, it is now understood that relief is to be afforded only for the purpose of averting danger of starvation, whereas in Tinnevely it seems to have been thought that distress also must be prevented. I should consider that the Madura estimate is a far more reasonable one, and more nearly in accordance with the views of Government, as set forth in the Despatch of the Government of India of the 16th January, than the Tinnevely estimate. I believe, however, that the Collector of Tinnevely, Mr. Stewart, is quite able and willing to restrict relief operations to any extent that may be compatible with the safety of the people, if he be clearly instructed as to whether his responsibility is confined to the preservation of life from starvation, or whether it extends to the prevention of mere distress. I have drawn his attention to the published Despatch of the Government of India of 16th January, which has just been received, a consideration of which will doubtless cause the Tinnevely estimate to be largely modified. It appears

to me that there ought to be much stronger evidence than anything we now have regarding imminent distress before any extensive relief operations ought to be allowed in this district.

No. 17.

No. 66.

XVIII.—MINUTE by SIR RICHARD TEMPLE, dated Madura, 24th January 1877, on the Subject of the Relief Administration of Districts of the Bombay Deccan.

Want of
strictness in
relief ad-
ministration
in the Deccan
Districts.

In continuation of my minute of the 22nd instant, urging certain measures of economy which would lead to reductions of expenditure on relief, I would beg the consideration of the Government of Bombay to the conditions set forth in paragraphs 2 and 3 of the Despatch of the Government of India, dated 16th January 1877. It seems to me that they apply in some degree, not a very great degree perhaps, but still in some degree, to the relief operations which we have conducted in the Deccan districts. While admitting the need of extensive relief in those districts, and acknowledging the large amount of good which has been and is being done there by the exertions of the local authorities, I still think that, in the words of paragraph 3, some "persons are employed to whom relief is not absolutely essential, and who without it would have been able to maintain themselves at all events for some time to come."

2. Although there is good supervision on the larger works, yet in many of the petty village works I fear that "the people can obtain almost for the asking, and in return for next to no work at all, wages in money or in grain."

3. I apprehend also that in some places the authorities, in the words of paragraph 2, are "attempting the task of preventing all suffering and of giving general relief to the poorer classes of the community," a task which the Government of India has in this Despatch declared itself unable to undertake. These instructions from the Government of India seem to me to render some reconsideration necessary in detail to see especially whether many persons on all the works, larger or smaller, could not be selected to be discharged, and whether some stricter check could not be imposed on admission to the works. In other words, I would say, let every person now on the works be discharged who apparently can get on for a time without such employment, and let no person in future be admitted unless there be reason to suppose that he or she is absolutely in need and would be in danger of starvation if employment were to be refused.

4. In respect to paragraphs 4 and 5 of the Despatch of the Government of India, urging that relief labourers be employed on large works of a permanently useful character, I have represented what occurred to me in my minute of the 12th January.

5. In paragraph 7 of the Despatch of the Government of India it is stated that "when distress becomes extreme, and a state of absolute famine has been reached, the Government may be driven to set up relief works near the homes of the people on a scale inconsistent with careful supervision or searching tests."

Although numerous works of this character have been set up in the Deccan districts, I doubt whether the stage contemplated by the above passage has been yet reached, though it may be reached hereafter. And with this view I would recommend that many of these petty works be reconsidered with a view to their being discontinued, wherever possible, for the present at least.

6. I should anticipate that, if the measures recommended in this minute and in my minute of the 22nd January can be at all adopted, a considerable reduction can be effected below the estimate of expenditure, one million and a half, submitted with the minute of the 12th current.

No. 18.

NARRATIVE of INSPECTIONS made by CAPTAIN BISSET, R.E., who was deputed to investigate and suggest Remedies for the Block in Grain Traffic between Northern India and the Famine Districts of the South. Nos. 26. 66.

Raichore, 24th January 1877.

Khandwa, 19th January.—About 200 tons of grain are waiting for despatch; some for Madras line (Adoni) has been detained for some weeks.

Block in railway grain traffic.

About 100 tons a week have been forwarded from Holkar Railway, but none now accepted by Madras.

On the 1st January there were about 13,000 tons of grain lying at the stations in this district, which extends from Nagpore to Nandgaum, and in addition to this there were 1,000 waggons standing loaded for the South-eastern district, *i.e.*, Lanowlee to Raichore and Madras Railway.

District Traffic Superintendent's Office, Bhoasawal, 19 January.

The accumulations at the stations increased up to a maximum of over 17,000 tons on the 13th, and are on this date 15,500 tons, of which 8,500 tons are at Nagpore itself.

Detail of Accumulations of 19th January.

Nagpore	-	-	8,500 Tons.
Small stations to Khamgaum	2,000	"	
Mortizapore	-	-	1,500 "
Badnera	-	-	700 "
Akola	-	-	1,700 "
Nandora and Shegaum	-	-	800 "
Bhoasawal to Nandgaum	-	-	300 "
Total	-	-	15,500 Tons.

It appears to me that open preference is given to cotton and linseed over grain and other seeds.

The allotment of waggons during a recent period of six days was—

525 for cotton.
136 for linseed.
153 for grain.

Total 814 for waggons from Nagpore district.

The preference given to cotton and linseed over grain which has been for weeks at the stations is intelligible only on the supposition that the whole of the grain in question is intended for the Madras Railway, for which supplies up to the full working power of the Madras line were already on the road.

I do not think the above supposition is in accordance with the facts, but as the question does not affect the supply to the Madras districts, I do not consider it of immediate importance to dwell on it further.

During the same period 714 empties were given to the Jubbulpore side, and returned chiefly loaded with grain. The estimated maximum capacity of the line here is 18 goods trains or 450 goods waggons.

This may probably be increased if the Thull Ghât can pass more.

20th January.

The greatest day's work I could find in the recent books* was 451 loaded waggons worked towards Bombay on the 20th December.

* Egutpura,—Thull Ghât.

The highest average of six days was on 4th to 9th December, when 336 daily were worked towards Bombay.

The average of nine days, 8th to 16th January, was 263 loaded waggons towards Bombay and 362 waggons (including empties) from Bombay.

The estimated capacity is, however, over 500 waggons, and the present working cannot be taken as a fair average, as the numerous special trains running have not only taken train room, but have upset the regularity of working of all the goods trains.

The working maximum of the Thull Ghât is not likely to exceed 450 waggons a day, but if this is done the Ghât is equal to the same work as the line above it.

22nd January.

With the cotton season coming on, a large portion of the 450 waggons will be for Bombay itself, and as the powers of the Bhore Ghât are about equal to those of the Thull Ghât, there is no difficulty to be feared on the former, even allowing for grain traffic and ordinary traffic from Bombay itself.

Block in
railway grain
traffic.

Between Lanowlee and Poona there were difficulties felt early in December, and crossing stations were at once put in at two points between Lanowlee and Poona.

Single line above the Bhore Ghât,
Lanowlee to Poona.

Poona to Sholapur.

When the Sholapur demand increased, the long distance stations between Poona and Sholapur were also divided by crossing stations, four of which have been already opened.

Sholapur to Shahabad.

Similarly, between Sholapur and Shahabad, a crossing station has been put in to divide Gulburga and Shahabad. There are still some long runs between Sholapur and Gulburga, and also between Shahabad and Raichore, but the powers of the worst part of the line are equal to about seven goods trains a day,

or much in excess of the working of the Madras Railway.

The promises made by Mr. Conder and the Agent, Great Indian Peninsula Railway, and by the Government officers, that from 150 to 200 waggons a day shall be delivered at Raichore (if required) is apparently practicable without more crossing stations, and the further addition to the carrying powers of this section of the line is considered practicable if the powers of the Madras line are increased so as to make this necessary.

There is ample material for sidings in store, and both the Government and the railway officers are ready to put them in as soon as there are any signs of their being wanted.

Madras Railway, Raichore to
Goody or to Bellary.

The powers of the railways have now been traced from the sources of supply to Raichore, and the powers of the Madras Railway have now to be considered.

If no other circumstance had to be considered than the interval between stations, the line should be able, notwithstanding two or three long runs, to pass about nine trains a day.

But the long runs of 18, 12, and 14 miles which follow each other from Kosgee to Adoni, Adoni to Auspree, and Auspree to Nemcherla, should in my opinion be divided by crossing stations.

Whether the long run of 18 miles between Goondacul and Vurapoor on the Bellary branch should be divided or not, depends upon the number of trains required for Bellary.

With two passenger trains and with engines of the same power as those now here, these nine trains would not carry the 200 waggons with which the Bombay Railway can undertake to deliver.

The first difficulty, however, is the want of engines, and whether or not this section has its proper share of the engines on the line, there is evidently work for more.

Want of engines.

Having found in Bombay that there were too few engines here, and that two trains of engine gear for 12 engines were just being despatched to the State railways, I asked the Director by telegram to suspend despatch, and I received a reply that the Consulting Engineer had been asked to erect and keep in Bombay the 12 engines referred to.

Colonel Hancock was in communication with the railway officers about the erection, and I hope the work is now in hand. Unfortunately they are all passenger engines.

Want of sidings at Raichore.

Discussions have apparently been going on about this for some time past between the Traffic Managers of the railways. Although they did not agree on the subject, neither appears to have referred the question for settlement till within a fortnight.

The reference made by the Consulting Engineer, Madras, was at once replied to by the Consulting Engineer, Bombay, who stated that while he was informed that more might be done with the existing siding accommodation by night working and extra staff, he was directed to consent at once to anything which the Madras Government desired in this matter.

Raichore, 23rd January.

On arrival here, I found that the Assistant Traffic Manager attached the greatest importance to a very easily constructed siding, and after looking at the work being done in the yard, and the difficulties which will be noted on hereafter, I sent the following telegram to the Consulting Engineer, Madras:—

“Bombay Government consent to additional sidings here; 12 engines, promised by Director, State railways, will increase work, and early execution by district engineer requested.”

Telegram asking for execution of
additional siding.

I met the District Engineer in the afternoon, and found that materials were available, and that the work could be done within a week of receipt of orders.

Mr. Conder and others say—

Complaints by the Great Indian Peninsula railway officers.

- 1st, that the engine power should be at once increased.
- 2nd, that the line should be worked night and day.
- 3rd, that there should be night staff for transferring goods.

Block in railway grain traffic.

If it is possible to give more engines from the other parts of the line, there is no doubt that their services on this short run would result in the delivery of three tons of grain at Bellary for one which they could bring from Madras to the same market.

I propose to discuss this subject at Madras.

Complaints of Madras Railway officers.

The night staff was put on from the 22nd January.

1. The want of proper marshalling of the trains brought in from the Bombay line gives a great deal of trouble at Raichore.

2. The use of the Great Indian Peninsula Railway cotton waggons for through traffic involves transshipment of a good many waggons at Raichore. (I talked to Mr. Conder in Bombay about this, and I ascertained that he had issued orders against the use of such waggons when it could be avoided.)

Telegram to Mr. Conder, despatched 23rd January.

On both of these subjects I telegraphed to Mr. Conder yesterday asking him to give the desired assistance.

3. Earlier notice of trains ordered for Raichore was also asked for.

Interruption to through booking. This is a grave calamity. It not only harasses traders, but it adds to the cost of transport, and to the time occupied in transport.

It thus diminishes the powers of the railways.

I have deferred my remarks on this subject till now, because it is at Raichore that its evil effects are most prominent. The yard is now filled with grain, which has been brought to Raichore and stopped there, chiefly because of the interruption to through booking.

I saw a number of the merchants and brokers here to day. All were anxious to turn a penny by moving on their grain to Bellary and Adoni.

They have a good deal of grain on the road now booked from Cawnpore and elsewhere to this place, and they all want to pass it on to the more distressed districts.

The grain blocks the yard, occupies valuable space, and demands infinitely more work and attention than if it was booked through in suitable waggons.

Some of the grain certainly belongs to Raichore merchants, but much wanted to go on to Adoni, and all of it now wants to go on, as the prices here have fallen to 10 seers and 10½ seers per rupee.

As there is no obstacle now

Raichore, 24th January.

Telegram asking for re-opening of through booking up to 90 waggons a day.

your side, but intended to go on. This is a serious evil. Stop this and re-open through booking as far as Gooty and Bellary, distributing the 90 waggons which Madras can probably take daily in such a way as to keep private trade moving, at the same time avoiding rushes."

The Honourable Mr. Gibbs, whom I met in Bombay, mentioned that he had trustworthy information that the Berars could supply over 200,000 tons of grain without difficulty.

Some doubts may exist as to the good quality of all the grain thus taken up, as it must be from pits.

I have sent a letter in continuation, inviting attention to the Nagpur district, and although I do not think it is possible to clear any district without neglecting another equally important one, I trust that the equitable distribution of the waggons according to the register of consignments, and the re-opening of through booking on the limited scale now possible, will restore confidence to the private traders.

After visiting Madras I shall be able to report how soon the limit of 90 waggons can be enlarged; and I trust that the powers of the Madras line may soon be equal to a larger number.

The actual despatches of waggons from Raichore station during the 19 days just ended

Actual despatches from Raichore southwards, 4th to 22nd January.

have amounted in all to 1,367 waggons, or an average of 72 per day. Much remains to be done before the office of the Great Indian Peninsula Railway can be worked up to,

but there are hopes that by marshalling of trains, and more care in selecting waggons for through traffic, the present engine stock will be able to carry more than the 90 waggons referred to in my telegram.

Block in
railway grain
traffic.

On my journey here I found everywhere, from Poona onwards, that carriage was wanted for grain to the Madras line, and I learnt from Mr. Hamilton Maxwell of Bombay, whom I met at Shahabad on his return from Hyderabad, that the same demand existed there and especially at Dharur, where the merchants were particularly anxious to get their grain on to Bellary.

No. 19.

Nos. 21. 92.

Telegram, dated 24th January 1877.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF MADRAS, Public Works Department.

Through booking between Great Indian Peninsula and Madras Railways, temporarily suspended as per telegram to your Consulting Engineer for Railways, dated 8th instant, resumed to day. At present no Great Indian Peninsula waggons under load for Madras stations; but unless Madras Railway Company arrange to clear away all through waggons as they arrive at Raichore, say 150 daily, a block will recur and through booking will have to be again suspended. Madras Company are understood to be prepared to take 90 waggons only per day at Raichore, but they did not employ night staff at Raichore station till the 21st and do not work night trains. If Madras Railway Company cannot at present clear off through waggons with due despatch, they should establish a dépôt for temporary storage of grain brought to Raichore by Great Indian Peninsula until they are in a position to deal with it, as such a block and detention of rolling stock as occurred lately deranges entire railway system. Reference particularly requested to letter from Colonel Hancock to Colonel Shaw-Stewart, No. 130, dated 12th instant.

No. 20.

Nos. 42. 43.

EXTRACT FROM THE PROCEEDINGS OF THE GOVERNMENT OF BOMBAY in the Public Works Department, No. 50 E.—158, dated 25th January 1877.

Mode of
dealing with
persons re-
fusing to ac-
cept terms of
relief.

RESOLUTION.—By Resolution No. 26 E.—93 of the 18th instant, his Excellency the Governor in Council approved of certain orders issued by the Revenue Commissioner, Southern Division, prescribing the mode of dealing with labourers employed on relief works, who might think fit to leave them from dissatisfaction with the rules laid down by Government for regulating the rates of wages.

2. By those orders, the village officers were directed to “take care that no person is allowed through obstinacy to die of starvation.” This injunction was quite in conformity with the principle on which the Government was then acting, viz., that no person was to be allowed to die of starvation, if it was in the power of the Government to prevent it. But his Excellency in Council now observes that, in the instructions issued by the Government of India to Sir R. Temple on the 16th instant, the following very important qualification is introduced: “Even for an object of such paramount importance as the preservation of life, it is obvious that there are limits which are imposed upon us by the facts with which we have to deal.”

3. The letter in question does not lay down any general principles by which the district officers should be guided in refusing the aid needed to preserve life; and his Excellency in Council would view with satisfaction the issue of supplementary instructions on that point. In the meantime, however, he feels convinced that in no case could assistance be more properly refused than in that of a man who wilfully and deliberately refuses to render the reasonable equivalent demanded by the Government for the means of subsistence which it is ready to afford him.

4. It is therefore ordered, in modification of the instructions issued by the Revenue Commissioner, that in the case of an individual refusing to perform work which he is capable of doing on the terms fixed by Government, no relief shall be afforded him at the public expense during the continuance of such refusal.

No. 98, dated Bombay Castle, 25th January 1877.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department (Railway), to the SECRETARY TO THE GOVERNMENT OF MADRAS, Public Works Department (Railway). Nos. 37. 92.

With reference to my telegram, dated 24th instant, copy of which accompanies letter, I am directed to state that through booking between the Great Indian Peninsula and Madras Railways having been resumed after being suspended for a fortnight, it is expected that large consignments will be immediately made to stations on the Madras line from the North-western Provinces, the Nerbudda Valley, and the Berars as well as from Bombay and certain stations on the south-eastern branch of the Great Indian Peninsula Railway, Poona, Sholapur, and Hyderabad, where supplies have accumulated. Block in railway grain traffic.

2. The General Traffic Manager, Great Indian Peninsula Railway, reports that provided the Madras Railway Company can arrange for the prompt despatch and return of waggons at the junction of the two railways at Raichore, he could, if necessary, carry grain into Raichore at the rate of from 150 to 200 waggons a day; and he anticipates that the traffic will immediately reach the former figure.

3. It is, however, understood that the Madras Railway Company now consider themselves in a position to take not more than 90 through waggons a day at Raichore, and it is obvious that unless arrangements are immediately made for more rapid clearance or for unloading and returning the balance of Great Indian Peninsula waggons at Raichore as fast as they arrive, a block, such as that which compelled the Great Indian Peninsula Railway Company to suspend through booking from the 7th to the 22nd instant, will soon recur.

4. It has been suggested that the Great Indian Peninsula Railway Company should now restrict through booking to Raichore to the number of waggons that the Madras Company are prepared to pass through, but the General Traffic Manager has represented that this is impracticable, and that through booking must either be allowed in full or not at all. Moreover, it does not appear expedient to check the flow of grain towards the famine districts of the Madras Presidency, even if for the present a temporary check at Raichore is inevitable, and rather than there should be another complete stoppage of through booking, it would seem preferable for the Madras Railway Company in their own interests to establish a depôt at Raichore at which the Great Indian Peninsula waggons could be unloaded, and the grain stored until the Madras Company are in a position to forward it. It is true that they will thus incur some risk and expense, but they will eventually obtain traffic which might be lost to them altogether if they refused to take the traffic at all, and so long as the difficulty arises with them it is unfair to throw the onus and loss entailed by refusing traffic on the Great Indian Peninsula Railway Company.

5. As stated in my telegram, the Bombay Government are given to understand that no night staff was employed at Raichore till the 21st, though on an urgent representation made by the Great Indian Peninsula Railway Company the employment of night staff was ordered on the 12th, and that even now the Madras Company do not run night trains, and are not therefore making full use of their engines. On the Great Indian Peninsula Railway the engines have for some time past been worked night and day with reliefs of drivers.

6. As explained in Colonel Hancock's letter to Colonel Shaw-Stewart, No. 130, of the 12th instant, the Bombay Government are prepared fully to co-operate with the Government of Madras in carrying out any improvements in siding accommodation required at Raichore, and the Agent, Great Indian Peninsula Railway Company, has intimated that he will raise no difficulties on this score. As regards the State railway engines, which it is understood are to be offered to the Madras Railway Company, I am directed to forward a copy of Resolution of the Bombay Government, No. 92, dated 23rd January, and to state that the work of erection will be commenced and pushed forward as rapidly as possible.

EXTRACT from the PROCEEDINGS of the GOVERNMENT OF BOMBAY, dated the 26th January 1877.

Cause of the defects in Bombay system of relief alluded to by Sir Richard Temple.

RESOLUTION.—His Excellency the Governor in Council has had under consideration the minutes addressed to the Government of India by Sir Richard Temple on the 9th and 12th instant, conveying his impressions on the state of matters connected with the famine in this Presidency as formed on the information he was able to obtain from Bombay officers during his rapid journey from the North-west Provinces and during his stay at Sholapur.

2. The views expressed in these minutes agree, on almost all points, with those which this Government has throughout enunciated and endeavoured to carry out; and the Government feel it due to themselves to state clearly the principal cause of defects indicated as existing in the system of relief in this Presidency.

3. So far back as the 16th October 1876, they announced that they had for six weeks been spending money on minor works, which they were satisfied were entirely inadequate to meet the serious demands they must inevitably encounter. They added "His Excellency in Council is clearly of opinion that in all cases in which, with due regard to sanitation and other local circumstances, it may be found practicable, it will be far more convenient, and in the end far more economical, to select for relief works those of considerable magnitude, which have been well examined and approved, though unavoidably postponed, on which the labours of large bodies of men can be advantageously concentrated. There may be cases in which it may be necessary to have recourse to isolated works of a trifling nature; but these should, as far as possible, form the exceptions."

4. About this time, in consequence of the departure of his Excellency the Viceroy on tour, the administration of the Government of India fell into the hands of the President in Council; and in the reply addressed to the Government of Bombay by his direction on the 25th October 1876 is to be found the origin of the embarrassment with which this Government has had to contend, and of the defects of system which Sir Richard Temple is understood to notice.

5. In that letter, after reviewing what was believed to be the condition of the distressed districts, and pointing out how they should be dealt with, the President in Council intimated that the remarks of the Collector of Poona as to the inexpediency of collecting large gangs away from their homes on large works have the full concurrence of the Government of India. The Collector of Poona had observed "I am strongly of opinion that as many small works should be undertaken as possible. I much fear that the collection of large numbers of people in localities where they must live in great discomfort and without shelter may lead to the outbreak of disease, which it would be difficult to combat;" and he added, speaking of prickly pear clearance, "it would certainly be more popular, because it would not take people away from their homes." It is not too much to say that at the present time there is nothing which more obviously requires to be checked than the "popularity of" the relief works.

6. The position was still further complicated by the President in Council, in the same letter, inviting the attention of this Government to a resolution of the Government of India of the 18th February 1875, the 12th paragraph of which contained the following passage:—

"The experience of former famines with respect to the advantage of opening public works, especially at an early stage of the distress, has been fully confirmed. Large works should be opened at once, small local works subsequently, as the necessity for them arises."

7. This letter was followed by further communications setting forth the objections of the President in Council to several of the large works recommended by the Bombay Government, and, as a consequence, the Government was reduced to greater dependence on the small works, of which the effect is now evident.

8. About the middle of December his Excellency the Viceroy arrived in Bombay, and on the 20th December, in replying to an address from the Chamber of Commerce, he observed—"I gladly take this opportunity to express the satisfaction of the Government of India with the manner in which the Government of Bombay is grappling with the difficult task imposed upon it. The principles avowed by that Government as those which will guide its action appears to me to be generally sound and excellent."

9. On the same day on which these words were uttered, the Government of Bombay received a letter dated the 15th December, communicating the dissatisfaction of the President in Council with their measures on several points, and again urging the prosecution of minor works.

10. This letter was subsequently much modified, and in that form, though still dated the 15th December, was not received in Bombay until the 11th instant.

11. Sir Richard Temple has since been formally deputed to examine and criticise the proceedings in the Presidencies of Madras and Bombay. The instructions to him in his reports, and the Despatches with which the latter have been transmitted to the Secretary of State, have been immediately published. With the tone and spirit in which those reports have thus far been framed, his Excellency in Council is quite satisfied. But he claims the right in cases in which this Government is concerned to supplement them with the information necessary to the full understanding of the bearings of the case; and having thus, in the present instance, explained the chief cause of the defects to which Sir Richard Temple has alluded, his Excellency sees with pleasure that, by the publication of the instructions to him, as well as of his minutes, all points of difference with regard to the mode of relief have been removed, and that, subject to certain conditions, the Government of Bombay may, with confidence, use its best endeavours to carry out the policy which it from the first advocated, and which is now accepted by all.

No. 23.

Telegram, dated 26th January 1877.

No. 30. 66.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to REVENUE SECRETARY, Madras.

Sir Richard Temple represents importance of not promising to the people remissions of land revenue, but only suspending the demand. We commend question to your notice in consultation with him.

Land re-
venue re-
missions.

No. 24.

XXIII.—MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, on the CON-
DITION and PROSPECTS of the SALEM DISTRICT, as ascertained by SIR RICHARD TEMPLE
at his meeting with the Collector, Mr. Longley, on the 25th January.

No. 66.

Madras, 26th January 1877.

The Salem district comprises 7,483 square miles, with a population of 1,966,995 persons. It is divided into nine taluks, and about one quarter of its area consists of permanently settled estates. The Madras Railway passes through it from one end to the other.

Salem Dis-
trict.

2. The Salem district consists of two distinct sections, the upland section on the Mysore plateau, containing four taluks, and the lowland section containing five taluks. The rain-fall of the year was 18 inches as against an average of 30 inches, but the latter rains (October monsoon) have been short all over the district, averaging 2 inches only as against the usual fall of 10 inches. The failure has been greatest in the northern or upland taluks, namely, Dharumpuri, Oosoor, Kristnagiri, Trichengode. One taluk only, Ahtoor, which lies just under the hills, enjoyed a fair October rain-fall, and its crops are comparatively good. Salem differs from some of the other coast districts, in so far that almost all its "wet" or irrigated land gets water from rain-fed tanks, which this year had failed entirely. Its only river channels come from the Cauvery River and irrigate 12,000 acres. The acreage under "wet" crop is about 8 per cent. of the total cultivated area of the district. And the Collector estimates the out-turn of the year at 6 annas, or less than half an ordinary yield for dry crops, 4 annas, or about one quarter of ordinary yield for wet crop. This would give something better than a 5 anna crop, or about one third of an ordinary good yield for the whole district. The harvest of last year (1875-76) was poor in the four northern taluks, where the failure this year is greatest. Over the rest of the district there was an 11-anna (about three fourths of an ordinary yield). The harvest of 1874-75 was a bumper harvest all over the district. In ordinary years the Salem district exports surplus food; the ordinary food of the common people is ragi and cholam. The ryots of Salem are well to do; the revenue rate for dry crop land is about Rs. 1 $\frac{1}{4}$ per acre, for the good soil of Salem is very light. There is a large population of weavers, very few of whom, however, have as yet come on the relief works.

3. The marts of the district, both large and small, are fully supplied with grain. Trade is very active; about 900 tons of food have come in by rail during the last two weeks from Beypore and Madras. The Salem demand will undoubtedly continue to be supplied by private trade. The district roads are very good. The cattle which do the cart traffic are quite distinct from the ordinary plough cattle, and they belong to a class

Salem District.

of people in the southern taluks who, in ordinary years, carry away the surplus grain, and now will distribute imported grain. Prices in Salem town are—

Present Prices.		Average of Ordinary Years at this time.	
Rice	- $7\frac{1}{2}$ seers per rupee	-	- 12 seers per rupee.
Cholum	- $9\frac{1}{4}$ „	-	- 24 „
Ragi	- 11 „	-	- 34 „
Kumboo	- 10 „	-	- 32 „

4. There have been no real cases of starvation; but in the northern taluks belonging to the subdivision there was distress among the poorer classes, and relief works were opened about two months ago. One month ago works were opened in the head-quarter taluks. The Collector does not consider the relief labourers to be generally in a depressed physical condition, though they are not so stout as in ordinary years. At first the relief labourers were paid daily wages, 2 annas a day for male adults. About three weeks ago task-work was introduced, and the numbers on the works fell from 21,000 to 10,000. The numbers have gone up again, and now about 23,000 labourers are on the works. The labourers are paid in cash at task-work rates, which are just twice as dear as the Public Works Department rates of ordinary years. At these rates adult males can earn about $2\frac{1}{2}$ annas a day if they work hard. Still, good work is being done, and the labourers are chiefly employed in repairing tanks which were breached in the cyclone of 1872. There is a larger and better organised staff for supervising the works than have been found in many districts. Besides the range officers, each taluk has two overseers; and the affected tracts are divided into circles, which are placed under officials on Rs. 25 a month, who are drawn from the tahsil staff or from pensioned Government servants. The Amíns of the Survey Department are also doing good work. The Collector wants more European supervisors for his works, such as pensioned sergeants who know Tamil. Bengal officers who do not know the language would not be so useful.

5. The Collector expects that he may have a maximum of from 70,000 to 80,000 persons on the works by the middle of April, if things turn out badly. If rain were to fall in February, then there would be a great reduction in the numbers on the works, for the beds of the tanks would be sown with cholum, which would ripen in May. Government have allowed these tank beds to be cultivated this year at the dry rate of assessment. If the rains which usually fall in April should be favourable, then the number on relief works will materially decrease in the month of May.

6. About 8,000 people are receiving gratuitous relief at the State cost; the numbers increased when task-work was introduced, and some hundreds have come over from the Coimbatore and North Arcot districts. The recipients are being collected into four camps, where they are kept breaking stones all day, and are not allowed to go home. Eventually the number of such camps may, if things get much worse, increase to 9 or 11. The Collector requires more dressers (Native doctors) to help in supervising these camps. The cost of this gratuitous relief will probably be kept down to one anna a head per diem, and there will be the value of what work the people do to set against this charge.

Gratuitous relief is also being given through the village officials (Moonsifs and Karnams), who temporarily relieve casual cases of distress and send in the bill to the tahsildar. The Collector is not quite satisfied that this money is being well spent; but he sees no alternative way of preventing casual cases of starvation in outlying villages. The village officials are now rather badly off themselves, for, as the land revenue is not coming in, they do not get their per-centage thereon. The Collector proposes to pay them out of the savings of the "village officials fund" of previous years, and so to secure their hearty co-operation.

7. The cattle of the Salem district are as yet fairly well off. Many have been driven to the Shervaroy hills and to the other hills with which the district is studded. They will probably get through the present crisis sufficiently well.

8. Water also is still near the surface in wells all over the district, except in the Dharampuri taluk, where there will be dearth, but not absolute want of water.

9. It has been proposed that $10\frac{1}{2}$ lakhs out of a total land revenue of $22\frac{1}{2}$ lakhs should be suspended or remitted. The Collector says that the revenue custom of the Madras Presidency is to remit and not to suspend land revenue due in respect of land whereon the crop has failed. But he also admits that in the case of dry crop lands, whereon the land revenue is very light, the ryots could certainly pay this year's balance out of the profits they may make on good crops during the next two years. He further says that, though the share of the "wet" assessment, which may be reckoned as rent for water, could not be collected on account of a year when tanks were dry, still the dry rate might be collected on "wet crop" lands.

In regard to the theory that remissions and not suspensions of land revenue are the custom of the Madras revenue system, I may note here that I learn to-day in Madras that the instructions to assessing officers direct that 20 per cent. be deducted from the full revenue rate in making assessments, so as to leave the ryots a margin for bad seasons; and it is stated in those instructions that remissions will not hereafter be granted on dry crop land. I cannot learn that any distinct provision of law, or any engagement with the ryots exists, whereby Government would be bound to grant remissions, instead of suspensions, of the land revenue which the ryots may this year be unable to pay.

Salem District.

No. 25.

XIX.—MEMORANDUM of the FACTS ascertained as to FAILURE of HARVESTS and DISTRESS in the NIZAM'S DOMINIONS, as ascertained by SIR RICHARD TEMPLE at Hyderabad on the 12th January. No. 66.

Madras, 27th January 1877.

At Hyderabad Sir Richard Temple met Major Euan Smith, C.S.I., First Assistant Resident; his Excellency the co-Regent, Nawab Shams-Ool-Oomrah, and his nephew, also Mukkurrun-Ood-Dowlah, nephew of Sir Salar Jung. The Resident, Sir Richard Meade, and his Excellency the Minister, Sir Salar Jung, had not returned to the capital. But Sir Richard Temple was able, by the courtesy of his Highness the Nizam's Government, to obtain full information as to the condition of the country. The secretary to Sir Salar Jung in the Revenue Department has charge of relief operations, and he supplied much information. This gentleman had borne a share in relief works during the famine of 1869, on which occasion he was a deputy Collector, so he was conversant with the relief procedure under British administration. A European gentleman, who holds the office of Superintending Engineer, and who is directing relief works, also gave Sir Richard Temple a memorandum on the subject of the scarcity.

Nizam's Dominions.

2. Out of the 17 districts which compose the dominion of his Highness the Nizam there has been bad failure of harvests in parts of six only, namely, in East Raichore, in part of West Raichore (known as Lingasoor), in the southern parts of Nalgonda abutting on the Kurnool district, in part of Shorapore, in part of Nuldroog near the Sholapore district, and in a small tract south of Pyton near the British district of Ahmednagar. The failure was most utter in the Alpur subdivision of East Raichore; there no crop whatever was saved this season. In the rest of the distressed tracts it is estimated that a yield of from 2 annas to 3 annas (one sixth of an ordinary crop) has been secured. In tracts adjoining the distressed districts the harvests have not been so good as usual, but over the rest of the country the harvests have been fair, while in the districts north of Hyderabad there have been decidedly good crops.

3. The Revenue Secretary was able to speak with confidence about the crops, for a Central Relief Committee had been formed at Hyderabad, and deputations from the Committee had visited the worst tracts, while the district officials had sent in full written reports from elsewhere.

4. The harvests of the two previous years (1874 and 1875) had been good throughout the country, save in one comparatively small tract of East Raichore, just where the present failure is worst. Stocks are probably considerable; the Revenue Secretary estimated that there must be quite a year's food in the country, for the Nizam's dominions always produce and export a considerable surplus of food (rice and jowari or cholom). Cholom (big millet) is the ordinary food of the common people, except in the south-east Telugu-speaking tracts, where rice and ragi are grown largely. The dealers of Hyderabad

* NOTE.—On the Nizam's State railway between Shahabad and Hyderabad, Sir R. Temple saw a considerable quantity of grain waiting at the stations for despatch to Bellary.

and other large marts are accustomed to do a large grain business. Even during the present year grain has gone and is still going* away largely to the Deccan and to the Madras ceded districts. Some of this grain comes from the country north of Hyderabad, where the crops have been good. The Nizam's country will not require grain from outside, though the southern districts may require and will get some of the surplus of the northern districts. An early but small crop of cholom and lesser millets will be reaped in September.

5. At Hyderabad the price of jowari (cholom) ranges from $8\frac{1}{2}$ to 10 seers per rupee. Rice is dearer. In the South cholom is 8 seers per rupee, and ragi is somewhat cheaper. To the north of Hyderabad prices are cheaper.

6. There have been no known cases of starvation or extreme distress. But some few hundreds of persons from the Alpur taluk in the extreme south went over to the Kurnool relief works. On representation being made relief works were begun on the Nizam's

Nizam's
Dominions.

side of the border in East Raichore, and also in a very few other places; and there are now (12th January) about 5,000 persons on the relief works. The condition of the labourers is as yet by no means depressed. A gang of about 1,500 labourers on a road in the Alpur taluk in the eastern extremity of the Raichore Doab was inspected as Sir Richard passed along; men, women, and children were all in good physical condition. The engineer in charge, Mr. Brandt, said that the people were much in want of work, but that he had not seen any cases of great distress. Some hundreds of people had come over to his work from Kurnool, because the authorities there had reduced their wage rate; he intended at once to reduce his rates also. Hitherto he had paid 3 annas a day to adult male labourers.

7. The Relief Committee at Hyderabad expect that at the worst season they may have to give relief wages to 25,000 people in all, and that gratuitous relief in the shape of cooked food may have to be distributed to destitute paupers at some 10 or 12 centres. Should necessity arise, the organisation for doing all this is ready. The Nizam's Government has no thought of laying in any store of grain, as the local trade will supply all needs of those who can buy.

8. There are plenty of pastures to which the cattle can be driven, though these are rather remote from Alpur and Eastern Raichore. There will be scarcity of water in parts of this tract, but no absolute water famine.

9. Reports have been received from the Nizam's taluks bordering on the Sholapore and Ahmednagar district of the Bombay Deccan to the effect that a large immigration of cattle and men had taken place from those districts into the Nizam's country. The Central Relief Committee did not accept as correct the reported numbers of these immigrants, and have ordered further inquiry. The Revenue Secretary did not think that this temporary immigration was more than the country under his Highness the Nizam could well bear.

10. The Nizam's Government expects to lose a good deal of its land revenue in the tracts affected by failure. Land revenue due for this year on fields of petty ryots, who have lost all their crop this season, will ordinarily be remitted at once and for good.

11. So far as Sir Richard Temple was able to judge, the arrangements made to meet distress and the diagnosis of the coming trouble, were creditable to the prudence and foresight of his Highness the Nizam's Government. The distress in the Nizam's country will be more limited and less serious than was at first feared, and will not, it may be hoped, aggravate the pressure and the trouble in the adjoining British district.

No. 26.

Nos. 27. 66. SKETCH by MR. BERNARD, Secretary to Sir Richard Temple, showing the AMOUNT of GRAIN required in the distressed Districts, and the ability of the Railways to carry it, as bearing upon the question of doubling the Line from Madras to Arconum Junction.

Madras, 27th January 1877.

Grain re-
quirements
and carrying
power of
railways.

The districts which must draw their food supplies from Madras and the North belong to two distinct sections of the peninsula, namely:—

A. Bellary, Cuddapah, and Kurnool, with perhaps half a million of people on the north-west districts of Mysore, or a total population of (say) $4\frac{1}{2}$ millions.

NOTE.—The district of Chingleput can best be supplied from Madras itself by cart, or by other means, without any help from the main line to Arconum.

B. Salem, North Arcot, and Coimbatore, with perhaps $1\frac{1}{2}$ millions of people in the south and south-eastern districts of Mysore, or a total population of (say) 7 millions.

2. Now the districts in Class A. have suffered the most grievous failure of harvests, and it may perhaps be reckoned that one third of the population can live on the old food stocks, while two thirds of the population will require imported grain; that is to say, these districts will require, at the rate of 400 tons a day per million of population, 1,200 tons a day of imported grain.

Now 150 waggons a day from the Great Indian Peninsula Railway will bring in 1,050 tons, or say 1,000 tons, and this leaves to be provided from Madras 200 tons a day.

3. The districts in Class B. are not quite so distressed; three previous harvests and present harvests were better; and it will be quite safe to estimate that one half of the population will be fed from old stocks of food. There remains one half, who will eat imported grain. Of this demand probably one-third will be met from the west coast and from Negapatam; and thus two thirds of the half, or one third of the whole seven millions,

i.e., $2\frac{1}{3}$ millions, must be fed from Madras. And they will require at the rate of 400 tons a day per million (say) 1,000 tons. Grain carrying power of railways.

4. Thus the total requirements from Madras will be—

	Tons daily.
For districts in Class A.	200
„ „ B.	1,000
Total	1,200

5. Now the section from Madras to Arconum can (so the railway authorities say) do at a pinch 9,000 tons a week, and they can do comfortably 7,200 tons a week. Thus, even if they worked quite smoothly, if there were no hitch, and if the supply of grain went on continuously, the Madras Railway from the sea to Arconum could first, by working full power, do the duty required of it. But practically things do not always work smoothly and continuously. Storms in May may prevent the landing of grain, and the quantity sent up during March and April ought to be more than the mere 1,200 tons per diem. It therefore seems that, to guard against possible disaster, the line to Arconum should be doubled, and the work should be done at once.

6. And further, to enable the proper supply of Northern* grains to come into the ceded districts, additional engines ought to be transferred from the Madras to the Raichore section of the Madras Railway. Within a month they can be set at liberty by the new engines borrowed from the State railways, and so they can be back in time for the increased work of the doubled line to Arconum.

* N.B.—These Northern grains are cheaper than rice; they are more sustaining, weight for weight, and they are the ordinary food of the people. In order to keep up the supply to the ceded districts, it is absolutely necessary to send up these three engines, for the Great Indian Peninsula Railway undertakes to deliver 150 waggons a day at Raichore, and these waggons cannot be carried down, worked off, and sent back without extra engines on that length. These engines will, working over the short lead from Raichore to Bellary, bring into that part of the famine country twice as much grain as they could do by working over the long lead from Madras to Bellary.

No. 27.

MEMORANDUM by Mr. BERNARD, Secretary to Sir Richard Temple, regarding the GRAIN Nos. 28. 66.
TRAFFIC by RAILWAY into the FAMINE-STRICKEN DISTRICTS of the BOMBAY and MADRAS DISTRICTS.

Madras; 27th January 1877.

Narrative of inspections and inquiries by Captain Bissett, R.E.

Note regarding the amount of grain to be carried by railway into the famine districts.

By Sir Richard Temple's order, the papers marginally noted are submitted with the following remarks which embody his views and recommendations.

Railway grain traffic. Means of removing block.

2. Captain Bisset has entered with energy and discretion upon the duty of remedying the block in railway-borne grain traffic into the famine-stricken districts. He has shown that, to a considerable extent, the want of power on the Madras Railway has re-acted upon the Great Indian Peninsula Railway, and has impeded the transport of surplus grain from Hindustan and Central India into the Southern districts. Without following Captain Bisset through the whole of his narrative, it will suffice to note briefly the several points to which he draws special attention, and to state Sir Richard Temple's remarks and suggestions upon each.

The points are :—

I.—The Great Indian Peninsula Railway should again begin to book grain through to stations on the Madras line at the rate of 90 waggons per diem, and should be ready to increase that rate up to 150 waggons a day, as soon as the Madras Railway is able to take and dispose of a larger number.

Major-General Kennedy, on receipt of a telegram from Sir Richard Temple, replied thus :—“ Booking through to Madras stations was re-opened on 23rd January. If it is considered advisable, only ninety suitable waggons will be worked into Raichore daily. But Agent and Traffic Manager state that booking cannot in practice be limited. Surplus beyond ninety waggons must be dealt with when possible by Madras Railway.”

Railway
grain traffic.

It therefore appears that the stream of through-booked grain has begun to come on the Madras Railway. If this stream is to be properly dealt with and to be kept up, then the Madras Railway must lose no time in strengthening its power of dealing with the grain traffic from the North. And the modes in which, according to Sir Richard Temple's judgment, the increase of power can be best attained are indicated at points III., IV., VI., VII., and VIII. below.

II.—*The booking of grain by the Great Indian Peninsula Railway to Raichore with a view to its being re-booked there for Bellary and other Madras stations should be discouraged.*

General Kennedy in the same telegram says, "Booking is not now limited to Raichore. "Great Indian Peninsula Railway is doing all in its power. Remedy must be found in "Madras, where it is suggested effective remedy must be applied." On this point Sir Richard Temple has only to express his hope that the Great Indian Peninsula Railway will as little as possible have recourse to the practice of booking to Raichore grain intended for stations further south, and thereby blocking the joint station. But then the Madras Railway must in its turn receive, work off, and return the Great Indian Peninsula Railway waggons promptly and regularly; or else there will be risk of the Great Indian Peninsula Railway Traffic Department again resorting to the practice of refusing to book-up country consignments beyond Raichore. At points III., IV., VI., VII., and VIII. below will be noticed some of the steps which must be promptly taken to enable the Madras Railway to fulfil the reasonable demands of the Great Indian Peninsula Railway.

III.—*Additional sidings should be put in at the Raichore station, so as to facilitate prompt disposal of trains.*

His Grace the Governor of Madras in Council has been pleased to order the immediate construction of these sidings.

IV.—*Crossing stations should be made, so as to divide the long runs and facilitate traffic between the stations of—*

Kosgee to Adoni.

Adoni to Auspree.

Auspree to Nancheerla.

Gondicul to Veerapore.

His Grace the Governor of Madras in Council has been pleased to order the immediate construction of these crossing stations.

V.—*The Great Indian Peninsula Railway should be requested to observe and fulfil the following requirements, namely:*

- (a.) *To deliver up to and not more than the Madras Railway can remove, and to load through grain in suitable waggons.*
- (b.) *To marshal their trains regularly and to marshal the covered cotton waggons (if any are sent) altogether.*
- (c.) *To give the Madras Railway earlier notice of the trains ordered to Raichore and of their load.*

Sir Richard Temple would suggest that the Government of Bombay may be pleased to impress these requirements upon the Agent and Traffic Manager of the Great Indian Peninsula Railway, and to take such steps as may to his Excellency the Governor in Council seem fit with the view of securing compliance.

VI.—*The Madras Railway should be requested to observe and fulfil the following requirements, namely:*

- (a.) *To keep the Great Indian Peninsula Railway informed how many through booked waggons they can take and promptly dispose of daily.*

Sir Richard Temple would suggest that the Madras Government may be pleased to impress this requirement upon the Agent and Traffic Manager of the Madras Railway, and to take such steps as may seem fitting to secure compliance.

VII.—*The despatch of additional engines from the coast section to the Raichore section of the Madras Railway, so as to enable the railway company to receive from the Great Indian Peninsula Railway and dispose of 150 waggons daily at the earliest possible date.*

On this point Sir Richard Temple would remark that he is aware how large a quantity of grain is waiting at Madras for despatch to the famine districts, and that all the engines

on the coast section have full work there. But he would explain that if three extra engines can be despatched to the Raichore section, they will, if the Great Indian Peninsula Railway deliver 150 waggons daily at Raichore, be able to carry into the famine districts of Bellary and Cuddapah nearly twice as much grain as they could deliver from the Madras terminus. Furthermore, much of the grain coming from the North is of a cheaper and more sustaining kind than the rice which is being sent up from the sea-coast. And moreover, these northern grains, cholam (jowari) and cumboo (bajra) are the natural ordinary food of the poorer classes in the ceded districts, whereas those people in ordinary years hardly eat rice at all.

Under all these circumstances Sir Richard Temple earnestly recommends to the Madras Government that additional engines should be detached from the coast section to work, for the next three or four weeks, on the Raichore section. At the end of that time the extra engines, for the construction of which at Bombay Captain Bisset has provided, will be ready. The new engines can work on the Raichore section, while the additional engines belonging to the coast section of the Madras Railway can return to that section and work on the Arconum section.

VIII.—*The improvement and strengthening of the telegraph staff on the Madras Railway so as to facilitate the expected heavy traffic and prevent avoidable accidents.*

Sir Richard Temple would invite the attention of the Madras Government to this requirement, and would suggest that the Madras Railway Agent be pressed to take immediate steps to strengthen and improve the telegraph arrangements and staff on his line.

IX.—*The early doubling of the 35 miles of railway from Ambatoor near Madras to the Arconum junction.*

Sir Richard Temple has had the honour of conferring with his Grace the Governor on this subject, and he has caused the appended sketch to be drawn up showing the weight of grain traffic, which probably should come upon this section of the line. The Arconum section, it may be remembered, has to feed the two lines which bifurcate northwards to the ceded districts and southwards towards North Arcot and Bangalore. Sir Richard Temple considers that if this line can now be doubled without impediment to the working of the grain traffic, and if the doubling could be completed within six weeks or two months, then it ought to be undertaken and to be begun at once.

No. 28.

No. 40-41, dated Madras, 27th January 1877.

No. 66.

From the SECRETARY TO SIR R. TEMPLE, on special duty, to the SECRETARIES TO THE GOVERNMENTS OF BOMBAY AND MADRAS.

By direction of Sir Richard Temple, I have the honour to forward copies of the papers marginally noted regarding the railway-borne grain traffic into the famine districts of the Madras Presidency.

Memorandum on the steps needed to improve the grain traffic into the famine districts by railway.
Narrative of Captain Bisset's inspections.
Sketch of the probable weight of grain traffic on the Arconum section of the Madras Railway.

2. I am to solicit the attention of the Government of Bombay Madras to points numbered ^{I, II, and V.} III, IV, VI, VII, and VIII, in the enclosed memorandum. Sir Richard Temple would be glad to learn whether ^{his Excellency the Governor} ^{his Grace the Governor} in Council is disposed to consider favourably the suggestions now submitted.

Forwarding to Madras and Bombay grain traffic correspondence.

No. 29.

EXTRACT from LETTER from AGENT, Great Indian Peninsula Railway, No. 1,100, dated 27th January 1877. No. 40. 92.

With reference to the telegrams from Captain Bisset (copies sent with your office No. 365 of 26th January), Mr. Conder is of opinion "that it is impossible to restrict through booking to any specific number of waggons. The only thing we can legally or in practice do, is to take all that is offered, and then when a block comes to stop altogether. If night trains are run from Raichore the block would probably be avoided."

Railway
grain traffic.

The above is Mr. Conder's note on my reference to him, and I must say that after full consideration and much previous discussion with Mr. Conder, I quite endorse his view. If we had only one or two forwarding stations to deal with, it would be a simple matter to control, but in practice it is not possible to direct, hour by hour, every station-master on the north-east and Nagpore lines, and also on much of the south-east line, how much grain he is to receive and despatch for Madras. Neither can we receive only at a certain few stations and bar the others; or receive at a certain number of stations to day and at certain other stations to-morrow. Any such system would be unequal and unfair, even if it was practicable.

The reason of the block at Raichore is not made clear. If the Madras line cannot move more than 90 waggons in 24 hours for want of engine power, then until such power can be provided, we must, I fear, receive and forward consignments in such a manner as to cause the least demurrage working up to a block or nearly so, and then stopping the booking. It will not do to unload the wagons and stack the grain outside of Raichore station limits, and leave it there for the Madras Company to re-load and remove at their convenience. Mr. Conder is strongly of opinion that by working 24 hours a day, the Madras Company could forward from Raichore all that we send.

Is the Madras Company now working night and day? If not, is it for want of engine power or staff, and what numbers of engines or men are needed?

No. 30.

Nos. 45. 66.

No. 105, dated 29th January 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY TO THE GOVERNMENT OF BOMBAY.

Land re-
venue re-
missions.

I have had the honour to receive your letter, No. 601 of 22nd instant, and in reply am directed to inquire whether his Excellency the Governor in Council anticipates that any evils will arise from suspending instead of absolutely remitting land revenue, and if so to request that their exact nature may be explained.

No. 31.

Nos. 32. 92.

No. C. 1 A. & M.-2651, dated Madras, 29th January 1877.

From the TRAFFIC MANAGER, Madras Railway, to the AGENT and MANAGER of the MADRAS RAILWAY.

Grain Traffic at Raichore.

Consulting Engineer's letter, No. 90, dated 20th instant.

It would appear from the following telegram from Captain Bisset, R.E., dated 24th instant, that the accumulated through-booked traffic on the Great Indian Peninsula Railway has been worked off.

"Bombay Line now clear of *through*-booked grain, and Raichore crowded with *local*-booked grain. Have suggested Conder re-open through-booking up to 90 waggons daily at present, also to marshal trains and avoid still further loading of cotton waggons with through goods."

2. The local-booked grain herein referred to is consigned to Raichore, but may be reconsigned to stations on this line.

3. As already advised, our existing locomotive power will not move more than 100 waggons per diem in all from Raichore; but this seems to be more than sufficient at present, as, for want of loads, we do not run regularly all the trains booked to run out of Raichore.

4. The shelter for grain at the different stations is required, I presume, for *storing* purposes, if, as I suppose, we shall not be required to make an arrangement for grain different from that existing for other goods, and in practice it is found that the grain does not suffer by exposure during the present dry weather.

There will be no difficulty in erecting sheds for storing grain; but these, in my opinion, should be placed in such a position as not to interfere with the unloading of waggons. In other words, that the unloading should be, as at present, performed at the cost of the Company, and the storage at the cost of the Government, or of the merchants,

if they wish to incur the expense, for the handling of the traffic cannot be performed without considerable additional expense. Railway grain traffic.

No. 32.

No. 68, dated Madras, 30th January 1877.

Nos. 38. 92.

From the CONSULTING ENGINEER FOR RAILWAYS, Madras, to the SECRETARY TO THE GOVERNMENT OF MADRAS, Public Works Department.

Adverting to the proceedings of Government under date 20th instant, No. 191, also to the telegram from the Government of India, dated 27th instant, calling for information regarding the block of traffic on the Madras Railway, I have the honour to lay before Government a report* by the Traffic Manager of the Madras Railway.

* No. 31.

2. The accumulated through-booked traffic on the Great Indian Peninsula Railway was worked off some days ago.

3. The Great Indian Peninsula officials seem to anticipate a recurrence of the block unless the Madras Railway is able to carry forward from 150 to 200 waggons per diem.

4. At present the Madras Railway can carry forward 100 waggons daily from Raichore, and the Great Indian Peninsula Company has been asked to restrict their consignments to that figure.

5. The officials of that Company state that to restrict their through consignments is impossible, and that through-booking must either be allowed in full or not at all. They press that a depôt should be established at Raichore, at which the Great Indian Peninsula waggons could be unloaded, and the grain stored until the Madras Company are in a position to forward it.

6. The adoption of this measure would be a great misfortune, and should be averted if possible.

7. The Madras Company is most anxious to carry forward every waggon which comes from the north, and deficient engine power is the only cause which will interfere with their doing so.

8. At present, as will be seen from the enclosure, the 100 waggons which they are able to take forward daily are apparently more than sufficient; as the Traffic Manager states that, for want of loads they do not run regularly all the trains booked to leave Raichore.

9. A night staff has been entertained at Raichore and elsewhere where needed. The Raichore station is understood to have been worked by day and night since the 21st instant.

10. The reduction of passenger train mileage on other parts of their line, with a view to increase the number of engines available at Raichore, has been suggested, and some temporary assistance may be expected from this source. With this object it has been arranged to stop for the present the regular festival traffic to Trivellore.

11. The 12 locomotive engines which have been promised by the Director of State Railways for use in this presidency, and which are now under erection at Bombay, will enable the Madras Railway Company to work all portions of their line freely and fully; but some weeks must elapse before they can be looked for.

12. In anticipation of this increase to the engine stock, authority has been granted to the Agent of the Madras Railway to telegraph to his board for the immediate despatch of 10 drivers. Six was the number at first suggested by the Agent; but after discussion with the Locomotive Superintendent it was determined to apply for 10.

13. The provision of temporary shelter for grain at Adoni and elsewhere will at once be proceeded with; but information regarding the quantity for which shelter is to be provided at each place is necessary.

14. I have authorised the immediate construction of an additional siding in the Raichore station yard. This was strongly recommended by the Traffic Department, and by Captain Bissett, R.E., who has had an opportunity of watching the station arrangements.

15. I have also authorised the immediate construction of a through-siding at the Toongabudra station, and similar accommodation at a convenient site between Kosgee and Adoni. The necessity of providing additional crossing stations is being carefully considered.

XXV.—MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, on the CONDITION and PROSPECTS of the CHINGLEPUT DISTRICT as ascertained by SIR RICHARD TEMPLE on his visit of the 28th and 29th January 1877, with notes regarding the Relief Camps in and near Madras.

Chittoor, 30th January 1877.

Chingleput
district.

On the 28th January, Sir Richard Temple visited Chingleput, and on the 29th he rode from Chingleput to Conjeveram through a part of the district. With him was Mr. Barlow, the Collector. He met Mr. Macarthy, the Sub-Collector of Chingleput, and also native tahsildars at Chingleput and Conjeveram.

2. The Chingleput district is close to Madras; it comprises an area of 2,753 square miles, with a population of 938,184. It is traversed by three railways and by excellent roads. Chingleput is not a rich district from an agricultural point of view; but being near to Madras, its large labouring population finds ample employment, and its many weavers get a good market for their fabrics.

3. The past season is the third bad year in Chingleput; there was a poor harvest in 1874; the yield in 1875 was bad, and this season there has been extreme failure, the rain-fall ranging from eight to 16 inches against an average of 34. The failure of harvest was worst in the taluks of Chingleput, Conjeveram, and Ponnery, where crops have been saved only on the lands irrigated by channels from the Palar river. Sir Richard Temple saw that, in the parts of these taluks through which he passed, there were no crops save on small patches under wells or irrigated from springs. The Collector estimates the average out-turn of the whole district at $2\frac{1}{2}$ annas out of 12 annas, or nearly one fourth of an ordinary crop. In August last, the people knew that scarcity would come, and relief works were opened in the end of December.

4. Grain is plentiful in the local markets which draw their supplies from Madras. There is very little local grain for sale in the markets. Prices all over the district are much the same as in Madras, except in the Trivellore taluk, where prices are somewhat dearer. The stocks of local grain are said to be small, because of the two previous short harvests. Common rice, which is the food of the poor, is now quoted at 10 seers per rupee.

5. The relief works consist mainly of roads, but some tanks and irrigation channels have been opened for work. In some cases, the people were in a physically reduced state when they first came on the works. Altogether 14,000 persons are now on the relief works; and the Collector expects that eventually he may have 70,000 at the worst season during April. The wages paid are two annas a day for adult males, but a good deal of the Chingleput relief work has been done at piece-work rates; and the Collector considers he has on these works, done at 10 pie per cubic yard earth-work which, in ordinary years, costs 12 pie per cubic foot.

6. A good deal of gratuitous relief is already being given in Chingleput; 8,000 persons a day are receiving cooked food; and the people are being gathered into relief camps where they will be fed, housed, and put to such light work as they can do. Sir Richard Temple saw two of these camps, which appear to be on the same scheme as the relief camps at Madras, some of which Sir Richard Temple inspected closely.

7. There are three relief camps in Madras, besides the Red Hills camp, nine miles outside the town. At these camps are about 10,000 pauper inmates, 2,500 at each. The paupers are chiefly immigrants from Chingleput, North Arcot, Nellore, and Cuddapah, who came down to Madras to seek for work and food, either because relief works near their homes had not then been opened, or because they had heard rumours of charity to be had in Madras for the asking. Some of these immigrants were pariah families, who had been turned off with a little food by the ryots who could no longer support them. Many of them had walked far, had eaten prickly-pear fruit or other indigestible food, and had become very much reduced before they reached Madras. Perhaps for a few days they would pick up a daily meal from charitable people in the town; and eventually the police would find them sleeping in the streets at night, and would bring them into the nearest relief camp. As soon as the food and treatment there given restored the people to strength, they were draughted out upon the road works. In this way more than 25,000 persons have been relieved at these camps.

8. At each of the camps which Sir Richard Temple inspected were a considerable number of women and children in an emaciated and miserable condition. In the relief hospitals were being treated some hundreds who were suffering from diarrhœa, brought on or aggravated by want of food. The death-rate among these poor people was very high; and to some of them the relief came too late. There were some, but not many, cases of cholera; but the great majority of the fatal cases were caused by diarrhœa,

which was called by the medical officers "famine diarrhœa," and was identifiable as the same complaint that was so fatal in the Rajpootana famine hospitals during the year 1869. Chingleput district.

9. The cost of these relief camps is at present considerable. A liberal diet is allowed— $1\frac{1}{2}$ lbs. of rice and $\frac{1}{2}$ lb. of vegetable curry per diem for adults; but it is possible that this ration may be required so long as the inmates come in much reduced, and provided they are draughted out to the works when they recover strength. The administrative arrangements of these relief camps are good; they are all under the general supervision of the Commissioner of Police, Colonel Dreevor; a medical officer with sufficient staff of subordinates manages the sanitation and the hospitals of each camp.

10. The Collector of Chingleput expects that he will be unable this year to collect more than one half of the land revenue of his district, though he may be able to realise much of the balance due on "dry crop" lands next year if the seasons are favourable. The salt revenue, he says, has not yet been injuriously affected by the scarcity.

11. The Collector expects that, if showers do not come during the next six weeks, there will be very hard times for the cattle, and many of them must die. As yet, however, the cattle have been kept alive, and are still able to do a certain amount of draught work.

12. In some parts of the district, the villages already have difficulty about their water-supply. As long ago as last August, the Collector found that there was no water for his camp followers at a village where he had intended to encamp. Wells are being deepened by relief labour in a number of towns and villages; and though there will be scarcity of water, still the people will be able to find water of some kind for themselves and their cattle.

No. 34.

XXVII.—MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, regarding the No. 92.
PROPOSED RAILWAY from CHINGLEPUT to CONJEVERAM.

Chittoor, 30th January 1877.

The Government of India requested Sir Richard Temple's opinion on the desirability of immediately undertaking, as a relief work, the earthwork of the proposed railway from Chingleput to Conjeveram. After discussing the project with his Grace the Governor of Madras, Sir Richard Temple visited Chingleput and rode over the line of the proposed railway to Conjeveram. Mr. Barlow, the Collector of Chingleput, and Captain Bisset, the officer of the Government Railway Department attached to Sir Richard Temple's staff, accompanied him. Proposed railway, Chingleput to Conjeveram.

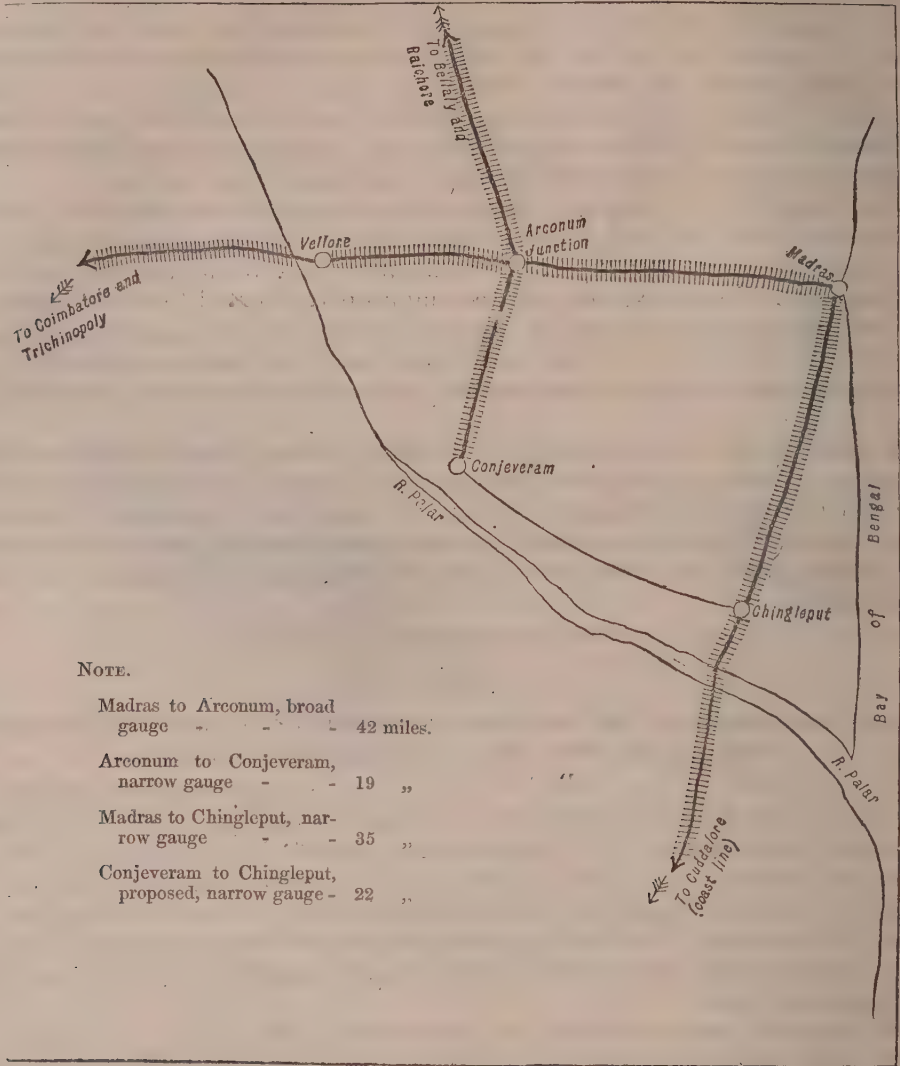
2. The proposed line is intended to connect with the South India narrow gauge system the short length of narrow gauge line between Arconum junction and Conjeveram. The sketch map in the margin gives an idea of the relation of the several railways to each other. The line from Madras to Arconum and onward, both towards Raichore and towards Coimbatore, is broad gauge; the line from Madras to Chingleput and onwards towards the south is narrow gauge; and so is the short branch, 19 miles long, from Arconum to Conjeveram. Chingleput is the head-quarters of some of the civil officers of the Chingleput district, and it contains a population of 7,000 persons. Conjeveram is a place of many temples and much pilgrimage; it contains 37,000 inhabitants. The proposed line is to connect Conjeveram and Chingleput; it will be about 22 miles long, and it will pass through parts of the talooks (administrative subdivisions) of Chingleput and Conjeveram with an average population of about 380 to the square mile.

3. If, as probably would be the case, the line were taken along or near the present road, which is metalled and bridged, then the earth-work of the whole line would, according to Captain Bisset's rough estimate, cost only Rs. 2,000 a mile, or Rs. 44,000 (4,400*l.*) in all out of a total estimated cost of perhaps 13 lakhs (130,000*l.*). The proportion of the cost that would be expended on relief wages is therefore so small that Sir Richard Temple is unable to recommend that this railway should be sanctioned as a relief work. Even if the line could be completed before the rainy season begins, it would be of no special service to relief operations, for the distress is not at present extreme in that part of the district; there are other railway lines, good metalled cross roads, and plenty of good carts by which the local markets are, and will continue to be, well supplied with grain.

4. So far as could be gathered from the marks of traffic on the road, from the number of carts and passengers, from the look of the country round, it did not seem that the prospects of local traffic on the proposed line were financially very good. For a part of the year, at any rate, traffic from the right bank of the Palar would not cross the broad river bed to the proposed line, but would naturally prefer the other railway lines to the north and south, on the same bank of the river. Conjeveram, as a place of pilgrimage,

Proposed
railway from
Chingleput
to Conje-
veram.

is already connected by railway with Arconum junction, and so with the standard gauge railways of the whole Madras Presidency.



No. 35.

Nos. 69. 221. EXTRACT from a LETTER from the DISTRICT ENGINEER, Malabar, to the SECRETARY TO THE REVENUE BOARD, Madras, No. 372, dated Calicut, 30th January 1877.

Mysore dis-
tress causing
difficulties in
Wynad.

I presume it is known that there is a season in the year when work on coffee plantations is almost entirely suspended, extending from the close of picking crop to about the end of May; picking is generally brought to an end about the middle or close of February; this year, however, owing to short crops, it was finished throughout almost all Wynad by the end of December, the result of which has already been explained by Mr. Logan in his letter to the Board. As a rule, the planters are not men of large means, and of late years, owing to bad seasons, they have been by no means doing well, so that to expect them to maintain large gangs of coolies when there is no necessary work is asking what is absolutely beyond their ability. At this moment I can vouch from personal knowledge that coolies who, in other seasons, would immediately after crop picking have gone back to Mysore and the other localities from whence they come, are hanging on at the estates and asking to be kept on, without wages, but for the mere food necessary to keep body and soul together. They all know that scarcity exists in Mysore, and that the price of food in Wynad is slightly lower than there, and it is not therefore difficult to account for their clinging to the former. A fortnight ago I was in Wynad and again observed what I saw on a previous tour, that men, women, and children are still flocking in, bringing cattle and all they have with them, by no means arguing the likelihood of those already in Wynad or on estates being about to return to their villages. It is said that in some parts of the Presidency where relief works are going on, the appearance of the people is not always such as to give the idea of want, but the same could not be said of the troops of men, women, and children seen by me lately, nor are deaths even already wanting.

No. 36.

REPORT by LIEUTENANT-COLONEL H. F. HANCOCK, R.E., Consulting Engineer for Nos. 46. 66.
Railways, dated Bombay, 31st January 1877.

The Consulting Engineer for Railways has the honour to report as follows on points Nos. I., II., and V. in Sir R. Temple's Memorandum, dated 27th January.

Railway
grain traffic.
Means taken
to remove
block.

I. The Great Indian Peninsula Railway Company recommenced booking grain through to stations on the Madras line on the 23rd January; orders have been given not to send more than 90 through waggons into Raichore daily for the present, and to keep back loaded waggons in excess of this number; but the Great Indian Peninsula Railway Company are prepared if necessary to increase the number to 150 waggons a day or more; and while they will do all in their power to regulate the despatch of waggons, they represent that they cannot control the daily consignments of grain for the Madras line, and should these consignments, which are being poured in from the East Indian Railway, as well as their own stations, be greatly in excess of 90 waggon-loads per day, or whatever the Madras Company can forward from Raichore, and should waggons consequently again accumulate on the Bombay side of Raichore to such an extent as again to necessitate a suspension of through booking, the responsibility will rest with the Madras Railway Company.

II. The booking of grain from Great Indian Peninsula Railway stations to Raichore has been discouraged, and for some days during the late block consignees of grain to Raichore were asked to delay booking, but the Company cannot avoid booking consignments to Raichore altogether, and if grain should be consigned again in large quantities to Raichore, consignees should be required to remove it as it arrives, and if necessary the wharfage charge should be raised in order to induce its speedy removal.

The suspension of through booking from the 8th to the 23rd January doubtless encouraged local booking, but was not the sole cause. Some merchants appear to have selected Raichore as a convenient station nearly in the centre of the districts affected by the famine.

V. (a.) The Great Indian Peninsula Railway will deliver waggons up to, and if possible not more than, what the Madras Railway Company can remove as above explained. They have also promised to book through as far as possible in waggons suitable for the Madras Railway, and the General Traffic Manager states that practically all will in future be suitable, *i.e.*, any exceptions will be accidental and very rare.

(b.) The marshalling of trains is being done. It was mentioned for the first time when Mr. Conder met Mr. Elwin on the 16th January, and was agreed to from the date of resumption of through booking. The Great Indian Peninsula Railway Company represent, however, that it is not properly speaking a duty that should devolve on them, or which is imposed according to the usual practice of railway companies.

(c.) The Traffic Manager, Madras Railway, telegraphed to Mr. Conder on the 29th instant (it had never been mentioned to him before) to inform him by wire daily how many waggons were loaded for Madras stations from each station on the Great Indian Peninsula and East Indian. It is not clear what use could be made of this information could it be supplied. What is wanted is, it is presumed, what Sir R. Temple has asked for, *viz.*, "earlier notice of the trains ordered to Raichore, and of their load," and Mr. Conder has given orders to have Mr. Church advised daily by telegraph how many waggons are under load for Madras stations at Shahbad, and also to telegraph to him what trains are ordered into Raichore, information hitherto supplied to the station-master there.

The Consulting Engineer will defer any general remarks on the papers until the receipt of certain reports about to be submitted by the Agent, Great Indian Peninsula Railway Company.

No. 37.

EXTRACTS from the PROCEEDINGS of the GOVERNMENT of MADRAS, in the Public Works Department, No. 304, dated 31st January 1877. Nos. 38. 92.

READ the following papers (Nos. 13. 19. 21.) :—

Order thereon by the Madras Government.

His Grace the Governor in Council considers that arrangements should be made on the Great Indian Peninsula Railway for receiving daily no more grain than can be taken

Railway
grain traffic.

through by the Madras Railway. Instructions should be issued to receiving stations on that line to restrict the number of waggons for the Madras Railway accordingly, and junction stations should be similarly warned not to forward to Raichore any waggons in excess of the number which the Madras Railway are in a position to work off each day. Any excess by a particular train should be counterbalanced by reduction of the succeeding load.

2. There seems no reason why the Great Indian Peninsula Railway should not limit through booking to 90 waggons a day.

3. Omission to attend to these orders should, if more than once repeated, subject the station-masters in fault to charges for demurrage arising therefrom.

4. Unloading at Raichore will be useless and costly. Additional sidings may perhaps be usefully laid down at Adoni, where it is proposed to put up temporary shelter for grain.

5. The Government of Bombay will be addressed in accordance with these observations.

No. 38.

Nos. 39. 92. EXTRACT from PROCEEDINGS of the GOVERNMENT of MADRAS, Public Works Department, No. 302, 31st January 1877.

READ the following letters (Nos. 31. 32.) :—

Order thereon by the Madras Government.

His Grace the Governor in Council is glad to find that the accumulation of grain traffic which recently occurred in the Great Indian Peninsula Railway has now been worked off. A repetition of similar state of affairs is to be deprecated, and the Government of Bombay have accordingly been requested to restrict through-booking on the Great Indian Peninsula Railway to the number of waggons which the Madras Railway may be in a position to take on daily from Raichore.

2. The unloading of grain waggons at Raichore has already been objected to, and Adoni and other convenient stations suggested instead.

3. The sanction given by the Consulting Engineer to the Agent to telegraph to his Board for 10 additional drivers for the engine stock expected from the Director of State Railways is approved; as well as the authority granted for the construction of additional sidings at Raichore, Toongabudra, and between Kosgee and Adoni.

4. Shelter for 2,500 tons of grain should be provided at Adoni, and arrangements made for storing 500 tons at other selected stations.

No. 39.

Nos. 55. 92.

No. 306, dated Fort St. George, 31st January 1877.

From the SECRETARY TO THE GOVERNMENT OF MADRAS to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

I am directed, in reply to your telegram of the 24th, and your letter of the 25th instant, regarding the recent block at Raichore, to forward copy of the orders passed by the Madras Government thereon; and to request that, if the Bombay Government concur in the suggestions made by his Grace in Council for preventing a recurrence of the block, and for facilitating the free passage of grain to Madras, the authorities of the Great Indian Peninsula Railway may be moved to issue the necessary directions.

No. 40.

Nos. 55. 92. EXTRACT of LETTER from GENERAL TRAFFIC MANAGER to the AGENT, GREAT INDIAN PENINSULA RAILWAY COMPANY.—No. 346, dated 31st January 1877.

* * * * *

3. You are aware generally of the condition of things with regard to the through traffic on the Madras Railway. As there has been much discussion about it, and I

believe that Sir Richard Temple is writing a minute on the whole subject, it may be well for me to give you, as shortly as possible, the leading facts of the matter. Railway grain traffic.

4. About the month of August last, the Madras Company wrote, saying that they considered that additional sidings were required at Raichore. The sidings at present there will accommodate more than the ordinary busy season traffic in and out of the station, and I was therefore obliged to say to Mr. Church that I was not able to concur in recommending any additional expenditure upon siding accommodation there. He did nothing more than I know of. I consider the sidings that are there already are more than sufficient for the work that usually has to be done throughout the year.

I find that during April and May of last year we had an average of 77 waggons a day in and out of the station, which is not very much less than the December traffic, to which I will refer later on in this report. But it has been arranged within the last ten days for an additional siding to be laid in, and the work is in hand.

5. Everybody knows that for some years past the question of the different gauges adopted on the different railways has been under consideration.

Some of the erections on the Madras Railway are so constructed that some of our waggons will not pass safely; which of the two may be wrong, namely, whether our waggons are too wide, or their erections encroach on what should have been left clear for the passage of vehicles, need not now be discussed. I merely state the fact.

And this fact made it, of course, necessary to stop such of our waggons at Raichore as could not pass with safety. The question has given rise to a good deal of discussion and correspondence, and recently, namely, on the 5th of the present month, I gave instructions for what are called our new waggons to pass on to the Madras Railway. These, with the open waggons, will therefore be used in future, as far as it is possible to do so, for through traffic; but in cases where the larger waggons which cannot pass are loaded with through traffic, the loads will still have to be transhipped at Raichore. The number of these will, however, be very small.

6. In the early part of December last, it was found that we were booking traffic to Raichore and on to the Madras Railway to a greater extent than it was being cleared away from Raichore. The consequence was that gradually there came to be a block on our line of waggons under load for Raichore and the Madras Railway. Perhaps the letter of the 26th December to the Madras Railway gives us, shortly as I can, the position of the matter as it then stood. Up to that time the Madras Company's answers to all our communications on the subject were, that it was want of siding accommodation that had caused the block, and the reply to the letter of the 26th December was to the same effect. That reply came to me by telegram, and by letter from Mr. Church and also from Mr. Elwin.

The block increased, however, and, as is known, we stopped for a few days the booking of traffic beyond Raichore. At the same time we discouraged the booking of traffic for Raichore itself without actually refusing it. The result was that very little, if any, was booked to Raichore, and all that was lying on hand there was what had been booked before the stoppage. I believe that some of that has not even yet been cleared away from Raichore. None of that which was booked through was unloaded and stacked on the ground at Raichore. When the through booking was stopped, we had nearly a thousand waggons under load for Raichore and for stations on the Madras Railway, and they were receiving at Raichore for that place and through at the rate of an average of less than a hundred a day.

7. In the letter of the 26th December, and also when I met the Madras Railway representatives on the 16th, I pointed out that so long as they closed the station for 12 hours out of every 24, and did not run trains during the night, but practically closed the line also for 12 out of every 24 hours, it would be difficult to convince anybody that they were doing as much as might be done. It is evident that, if more trains had been run and if the unloading had been carried on by night as well as by day, as it had to be at some of our stations, much more work could have been done, and I think that there would never have been any block at all. I pressed upon Mr. Elwin the desirability of making more use of the line by working trains day and night, and by putting on a night staff at Raichore to do such unloading and transhipping as was necessary.

8. This latter Mr. Elwin, by telegram dated the 10th, had advised me he had given orders to have done, but when we met there on the 16th it had not been carried out, and the night staff did not actually commence work until the evening of Monday the 22nd, that being after a telegram that I had sent on the 20th to Mr. Elwin and Mr. Church.

9. Much has been made of the transhipping and unloading at Raichore. But the number of waggons that have had to be so dealt with was not much larger than it usually

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grain traffic.

is during the busy season, although it has not formerly caused any block. For the whole month of December the average booked through to stations of the Madras Railway was 46 a day, and of that number the daily average of those that had to be transhipped was only 16. And that is a number which should not have caused any difficulty. There were also in addition to these 46 waggons, an average of about 50 a day, under load with consignments for Raichore itself, which had, of course, to be unloaded there, making a total to tranship and to unload of 66 a day.

The work of loading and unloading at Raichore is done by a contractor, who stated to us that he was prepared to do more if more supervising staff were provided by the Madras Company, and that means, as we ascertained, that two more foremen and eight hand-lamps were required, and nothing else, to enable the work to be continued night and day. I offered, before the 10th instant, if it would be any convenience to the Madras Railway, to provide these foremen and lamps ourselves, but the offer was not accepted.

10. That which was consigned to Raichore should not have caused any block there, because the owners should have been required to remove it from the station without delay, and if they did not do that the wharfage charges should have been increased so as to compel them to remove. This is what we have had to do at some places in order to keep the stations clear, and there is no reason to doubt that it would have answered that purpose at Raichore.

11. Mr. Elwin stated, in regard to the engine power for the day and night trains, that they were so much pressed upon other parts of the line, that they could not put more engines there than the four employed to work on that district. I could, of course, make no answer to that except that they knew better what could be done than others; again pointing out, however, that it seemed likely that if night staff were employed more could be got out of the engine power that was available; and I reminded Mr. Elwin that this practical closing of the line and the station for half the time had ended in the serious detention of our waggons at a time when they could not be passed. So far as the complaint respecting the through booking having been stopped is concerned, it will therefore probably be admitted that the explanation I have given is not a bad reason for the step that was taken.

12. With regard to the future I pointed out to Mr. Elwin that we were ready to recommence the through booking directly we found there was reasonable ground for thinking that the block would not recur. We were about clear of waggons under load for the Madras Railway and for Raichore on 23rd, and therefore I gave instructions on that morning for traffic to be again booked through as freely as it presents itself.

13. When we were at Raichore on the 16th, I heard, for the first time, that it was thought that we should marshal the trains, that is, separate the through and local waggons. I do not think that this is a service which should be expected of us, and it is not usual as between companies, but I said at once when it was mentioned that we would do it as far as possible, and orders have been given accordingly.

14. I yesterday received a telegram from Mr. Church asking us to wire him each day the number of waggons loaded for Madras line stations at each station of this and the East Indian Railway every day. I telegraphed to Mr. Church in reply to the effect, first, that it would be impossible to do this (the wire is already overcrowded with messages), and, second, that if it were done, it would be of no practical use to the Madras Railway, for it cannot assist them to know that five waggons were loaded to-day, for example, at Nagpur, or six at Jabalpur, or ten at Cawnpur. What they want to know is the number that may be expected daily at Raichore. I therefore said to Mr. Church that I would advise him by wire each morning the number on hand under load for his stations at Shahabad. That is a convenient place for the purpose, because it will include any that may be booked from Hyderabad as well as from all parts of this and the East Indian and Baroda Railways.

15. I am arranging also to let the Madras Company's manager know the number of trains ordered for Raichore each day, as well as the number of waggons on each train. This information has been always supplied to the station-master at Raichore, who gets it in the same way as every one else does when the trains are ordered, but it will probably help Mr. Church if his name is also put upon the message, and I have therefore arranged accordingly.

16. I hope that the Madras Company will be requested to ensure the prompt return of our empty waggons, because our ability to keep up the regular supply, and to keep traffic moving, will depend upon that. At present no additional trains are running, and we are finding already that we have more under load for Madras stations than they can

clear away ; so that unless something more is done beyond Raichore at once, the block will soon be as bad as ever.

No. 41.

Nos. 54. 65.

MINUTE by the Honourable SIR ALEXANDER J. ARBUTHNOT, dated February 1st, 1877.

Within the last few days we have received from the Government of Bombay certain papers* regarding the famine in that Presidency, which appear to me to demand the serious attention of the Government of India, as being calculated to produce very erroneous impressions with reference to the course taken by this Government. One of these papers, that of January the 26th, which the Bombay Government have given to the local newspapers, contains a direct attack upon the manner in which the business connected with the famine was dealt with by the President in Council, and contrasts it unfavourably with the policy which has been pursued by the Government of India since his Excellency the Governor-General rejoined the Council. It implies, if it does not expressly state, that all that was done by the President in Council was done without the knowledge and without the concurrence of the Viceroy. It in fact pits the Governor-General in Council against the President in Council, the obvious object being to disparage the action taken by the latter and to hold it up to public contempt. The day before the issue of the resolution to which I allude, the gist of it was embodied in a leading article which appeared in one of the Bombay newspapers, in which Sir Henry Norman and I are mentioned by name as the authors of the obstructions against which it is alleged that the Bombay Government have had to contend, and which bears obvious marks of having been inspired, if not actually written, by some one immediately connected with the Government of Bombay.

Minute by Sir Alexander J. Arbuthnot on the action of the Bombay Government.

*Nos. 7. 22.

2. Before proceeding to comment on the observations made in these papers, I propose to recapitulate very briefly the salient points of the correspondence which has passed between the two Governments regarding those matters on which there has been difference of opinion.

3. At a very early stage in the scarcity the Government of India saw reason to believe that the Government of Bombay were disposed to incur an expenditure which might prove to be in excess of the requirements of the case, and that it was necessary that their proposals should be carefully scrutinised. The very first letter which was received from them on the subject, dated 13th September, contained a significant allusion to the enormous outlay lately incurred in Bengal, which, although it was coupled with an intimation that the demand to be made from Bombay would be comparatively trifling, still when considered in connexion with the disregard for financial considerations which has been so often exhibited by the Government of Bombay, was sufficient to indicate the necessity of caution in dealing with their requisitions. This letter was speedily followed by an application for permission to commence at once, as a relief work, the Dhond and Munmar Railway, the estimated cost of which was 90 lakhs, and which was pretty certain to entail an expenditure of a million sterling. This application was made on the 29th of September. At that time a fall of rain, which would have saved portions of the standing crops and would have enabled the winter crops to be grown, would have materially altered the aspect of affairs. I observe that, as late as the 10th of October, the late Mr. Havelock and Colonel Finch, in a joint report addressed by them to the Government of Bombay, adverted to the possibility of a good fall of rain "to give hope of the late or "rabi crops," although they did not regard it as a probability. On the same date the Acting Collector of Satara wrote—

"There is no prospect of rain at present, although it is anxiously expected. If rain falls prices will fall, and there will be hope for a rabi crop."

The Government of India, his Excellency the Governor-General being then with the Council, were unanimously of opinion that it was not expedient to sanction the immediate commencement of the Dhond and Munmar Railway as a relief work. The Government of Bombay on the 4th October were informed that "local relief works and other relief operations might be started, selecting such works as could be found near the homes of the people, in preference to committing Government to commencement of large projects."

4. In a subsequent telegram dated the 16th October, in reply to a further representation to the Government of Bombay, it was intimated to that Government that the Government of India did not think it right to authorise the commencement of so expensive a work as the railway in question, the expediency of constructing which, in preference

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to other important lines, has not yet been determined, merely to meet a temporary, though serious emergency. The telegram went on to say—"Local works of a character to give employment for some months should be organised, the Government providing the necessary funds, and leaving the final incidence of the charges to be settled hereafter. The district officers ought to have no great difficulty in organising such works. Your Government are authorised to incur such expenditure in providing work and relief in the distressed localities as you may consider necessary to meet the emergency; but it is not deemed advisable to embark on any large project which will involve the continuance of heavy expenditure after the emergency has ceased. The railway question must be decided on its merits from a political and financial point of view, and is not yet ripe for decision." This telegram was despatched the day before the Governor-General left Simla, and was approved by his Excellency.

5. The views of the Government of India were more fully stated in a letter addressed to the Government of Bombay on the 25th October. It was therein explained that "in the construction of railways in India, it is absolutely necessary that each project should be taken up in succession in the order of its necessity as compared with others; that no project should be undertaken under present financial circumstances which cannot be depended on eventually to return full interest on the outlay; and that only so many should be on hand at one time as the borrowing powers of the State permit. For works designed to afford relief during scarcity, it is now an established principle that those ought to be selected, as far as practicable, which can be completed, or far advanced towards completion, by the outlay which the scarcity demands. Testing the Dhond and Munmar Railway project by the above conditions, the information at present before the Government of India does not appear to justify the immediate commencement of the line, while the relief outlay which it would provide would bear a very small proportion to the entire expenditure which it would involve, and would be confined to a comparatively small area of the affected tracts."

6. The Government of Bombay were requested to, apply these principles, as far as they were applicable, to all projects which might be suggested to them at the present juncture; and the prominent position held by tank clearances, and the repair and improvement of existing roads in a memorandum of relief works which had been sanctioned by the Government of Bombay, as well as certain remarks made by the Collector of Poona as to the inexpediency of collecting large gangs away from their homes on large works, were referred to in terms of commendation. The attention of the Government of Bombay was at the same time drawn to the Resolution of the Government of India of the 18th February 1875, as indicating the general policy of the Government of India regarding measures of relief in times of scarcity.

7. In framing these instructions the Government of India were considerably influenced by what had recently occurred on the occasion of the apprehended scarcity in North Behar towards the end of 1875 and in the early part of 1876, when, had the recommendations of the local authorities for the commencement of large and expensive relief works been acted on, we should have been committed to an expenditure which events have shown would have been far in excess of the necessities of the case. It was not, however, at any time the intention of the Government of India to proscribe a resort to large works in the event of the famine assuming dimensions which would render the plan of local works difficult to carry out; and it will be seen, on reference to our Despatch to the Secretary of State under date the 15th December, that we fully recognised "the possibility, in the case of a scarcity so widespread as that which now afflicts the Presidencies of Madras and Bombay, of its being necessary before very long to fall back upon larger projects," and that we informed the Secretary of State that this question was engaging our serious attention. Before this Despatch was written we had requested the Public Works Department to furnish us with further information than that which we possessed in the Agricultural Department regarding the Dhond and Munmar Railway project, and also regarding the project of a railway from Bellary to Gudduk, which the Madras Government had proposed to commence as a relief work.

8. On the receipt of our telegram of the 16th October, the Government of Bombay sanctioned a programme of relief works involving an estimated cost of nearly 62 lakhs of rupees. This programme contained a very large proportion of small works, but also several large works, some of which were certain to involve an expenditure considerably in excess of the sums which were likely to be spent on them during the continuance of the famine. In regard to the latter the information which it contained was very scanty. It merely specified the amount sanctioned in each case, without any mention of the aggregate expenditure which the work was likely to entail. As an instance, I may observe that the amount to be assigned to the Maswad tank was put down at four lakhs,

whereas it now appears that the estimated cost of that work is over 18 lakhs. The programme also bore evidence of having been hastily prepared. While in the case of some districts provision was made for spreading the works over the distressed localities, in others the expenditure was concentrated on a few large works, some of which were immediately afterwards abandoned by the Bombay Government on the representation of the district officers that the works sanctioned would not meet the wants of their districts. This inconsistency in the programme appears to be attributable to the fact that it was settled in a single day at a conference at which the Collectors of some only of the affected districts were present, and that the Government were not in possession of definite suggestions from the Collectors of the remaining districts. The programme was carefully examined by the Government of India. A considerable number of the works specified in it were allowed to stand. Two works were disallowed, and the Government of Bombay were requested to suspend the commencement of others pending the submission of further information with reference to them. They were also requested to furnish full information regarding all irrigation works, and not to commence any irrigation works the estimated expenditure on which exceeded Rs. 30,000, without the sanction of the Government of India. At the same time they were informed that if other relief works were needed, pending the decision of the Government of India regarding the suspended works, minor works should be commenced in each distressed taluka, as had been done in Poona.

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9. The Government of Bombay replied to this letter on the 27th November. Their reply was in effect a protest against any interference on the part of the Government of India. It questioned the correctness of the remarks of the Government of India regarding particular works. With reference to local works it was somewhat contradictory. It drew attention to previous assurances given by the Bombay Government, to the effect that as regards minor and local works its resources had already been virtually exhausted; while in the same paragraph, it stated that the Local Government had not overlooked the question of minor works, and was from day to day authorising their commencement in different localities; but it was added that such works must not be regarded as in substitution of the larger operations which had been determined on, but in addition to them. The tone of parts of the letter was petulant, and on one point there was, as there has been in other letters from Bombay, a perversion of the purport of the orders of the Government of India.

10. The President in Council replied, on the 15th December, disclaiming any intention of interfering with the Government of Bombay more than was necessary to enable the Government of India to satisfy itself that the principles which had been laid down had been duly followed. These principles were recapitulated. The Bombay Government was commended for its efforts to utilise provincial resources and to avoid interference with the grain trade. The feasibility of organising minor local works was affirmed, as evidenced by the examples of the Poona and Sholapur Collectorates, and by recent applications from the Collectors of Satara, Belgaum, and Kaladgi, and the opinion was expressed that if more full information had been obtained from the district officers, the programme might have been framed more in accordance with the policy of the Government of India. The delay in giving effect to the orders of the Supreme Government, sanctioning an additional Revenue Commissioner for the distressed districts, was also adverted to. It should here be distinctly borne in mind:—

- (a.) That the Bombay Government, notwithstanding the lapse of above a month, and more than one call made upon them, had not, except in a few instances, furnished the information we deemed necessary, and in the case of many important works scarcely any information at all.
- (b.) That the Bombay Government had empowered all the Collectors to commence without further reference any work entered in the programme, and that the information as to the extent and localities of the famine, submitted to us in reply to our telegram of October 22nd, had proved to be so meagre that we had been obliged on the 30th November to call for a complete review and forecast to be sent in by January 15th.

11. Our letter of the 15th December reached Bombay shortly after the arrival of the Viceroy at that place. It appears that the Governor expressed himself much dissatisfied with its contents, and especially took exception to those passages in which undue haste and want of deliberation in the preparation of their programme of works, and undue delay in the appointment of the additional Revenue Commissioner, were attributed to the Government of Bombay. The Viceroy on his arrival at Delhi proposed that the letter should be withdrawn, and a similar suggestion was thrown out by Sir Philip Wodehouse at the conference which was held there on the 1st January, and at which

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the Governors of Madras and Bombay attended. I was myself, in the first instance, opposed to the withdrawal of the letter, of which a copy had already been sent to the Secretary of State, and which appeared to me to be expressed in terms in no way discourteous to the Local Government, and to contain no statement which was not fully justified by the actual facts. No decision was come to that evening, but the next day it was settled that a fresh letter, bearing the same date, should be substituted for the letter of the 15th December, the two passages to which Sir Philip Wodehouse had taken exception being omitted. Sir Philip Wodehouse was informed by the Viceroy before he left Delhi that this would be done, and on the 5th January the revised letter was despatched to Bombay. On the same date the Bombay Government were informed in a separate letter that the restrictions on the commencement of large works were withdrawn, subject to certain conditions, the nature of which had been explained to the Governor at Bombay and subsequently at the conference. When these steps were taken, it was assumed that our revised letter, with the letter removing the restrictions previously imposed, would terminate the correspondence, and that the controversy was practically closed. The Government of Bombay, however, in their letter of the 18th January, have addressed a letter to the Government of India which purports to be a reply to our revised letter, but which quotes a passage in the original letter of the 15th December omitted from the revised letter.

12. I must here pause in my narrative of the differences between the two Governments, for the purpose of adverting to discussions which have recently taken place in the Government of India, followed by what may be regarded as in some measure, at all events, a change in the policy which was favoured by the collective Government of India, from the time at which we received the first intimation of the Bombay scarcity up to the time of our meeting at Delhi, or, perhaps, I should say, up to the arrival of the Viceroy and Sir John Strachey at Bombay. During the whole of that period the Government of India were unanimous in the opinion that in the earlier stages of the scarcity, and until it became absolutely necessary in consequence of the numbers of persons in need of relief to provide large works, a preference should be given to local works within easy reach of the homes of the people. The main ground upon which this opinion was based, was the difficulty of devising any number of large works which would not involve an expenditure considerably in excess of the requirements of the famine, a consideration which, as it appeared to me, was of paramount importance, especially in the present position of the finances. Another consideration, which I confess has weighed with me very strongly, is the great danger, in a time of scarcity, when the physique of the people is usually somewhat reduced, of inducing outbreaks of epidemic disease by the collection of large gangs of people at a distance from their homes, often with unavoidably insufficient shelter, and under other circumstances unfavourable to health. But it was felt from the first that the time might come when these risks would have to be encountered, and as I have said, the question of resorting to such large works as the Dhond and Munmar Railway was already under consideration when our original letter of the 15th December was despatched to Bombay.

13. Our colleague, Sir John Strachey, holds opinions very much opposed to those to which I have referred. He admits to a very limited extent, if, indeed, he admits it at all, the propriety of commencing with local works; and he is clearly of opinion that when anything like extensive relief is needed, the right thing to do is to collect the applicants for relief, or such of them as are capable of working, upon large works, where the labour test can be efficiently applied under proper supervision, and he thinks it better, when this is practicable, that the people should be worked at a distance from their homes than in their immediate neighbourhood. I am bound to say that these views derive very cogent support from what has taken place in the Madras Presidency, though even here I cannot but think, that the system of local works might have been carried out in a less extravagant fashion, had the Local Government been more impressed with the necessity for economy. However this may be, Sir John Strachey's views have been practically accepted and acted on by the Government of India in our recent instructions to Sir Richard Temple. Their adoption has evidently led the Government of Bombay to form very erroneous impressions as to the real facts, and to regard the policy which was acted on up to the last few weeks as the policy of only that section of the Government, composed of four members, which remained at Simla after the departure of the Viceroy on his tour, and which subsequently carried on the administration at Calcutta. To these erroneous impressions is, I think, to be ascribed, although of course they do not in the slightest degree justify, a great deal that has been written in the recent letter and Resolutions of the Government of Bombay, including, perhaps, the extraordinary course which that Government has taken in pursuing a correspondence,

in regard to which there was an implied, if not an express, understanding that it should cease, and their still more extraordinary action in writing and publishing in the newspapers a Resolution in which they have contrasted the supposed views of the Viceroy with those of the President in Council, with the manifest object of disparaging the latter, and in which they have disclosed to the public the essentially private arrangement made between the Viceroy and the Governor of Bombay, that a certain letter should be withdrawn and another substituted for it.

14. The Bombay letter of the 18th January professes to contain a summary of the principles advocated and proposals made by the Government of Bombay, and of the mode in which they were dealt with by the President in Council. Like other communications from Bombay, it raises an entirely false issue and misrepresents what was actually done and written by the Government of India. Its object is to show that the Bombay Government were forced by the President in Council to waste money on useless works, in consequence of the refusal to sanction, without further explanation, many of the large works provided for in the Bombay programme. It refers to the *rejection* of many of the Bombay proposals, the fact being that only two were absolutely rejected. It gives no explanation of the omission of the Government of Bombay to furnish without delay the more full information which was called for with reference to the large works in their programme, which were not rejected but only suspended; and it entirely ignores the remark made both in the original and in the revised letter of the 15th December, though in different terms, to the effect that the Government of India recognised the necessity of resorting to large works in the case of a famine of prolonged duration. There can be no doubt that if the information called for had been promptly supplied, many of the works in the programme, which by our order of the 9th November were suspended, would have been sanctioned long before this. As I have already observed, the information afforded in the Bombay programme was of the most meagre, and, indeed, of a positively misleading description. To specify four lakhs as the projected expenditure on a work, the estimated cost of which exceeds 18 lakhs, without making any mention of the estimated cost, is, to use the mildest term, calculated to mislead, and is certainly not consistent with the system usually followed by a prudent Government in sanctioning the expenditure of public money. At the time at which this programme reached us, the finances of India were, as they still are, and it is to be feared are likely to remain for some time to come, in a position of very serious embarrassment. Even then it could not be affirmed with certainty that either in Bombay or in Madras the famine would be as bad as it has proved to be; but had it been otherwise, I cannot think that in calling for more satisfactory information, we in any way exceeded the duty and the responsibility which devolved upon us. Why this information was not at once supplied, the Bombay Government do not explain. Either they were in possession of it when they framed their programme, or they were not. If they were, their omission can only be attributed to impatience of interference and control. If they were not, then they are clearly chargeable with having performed an important duty in a hasty and perfunctory manner, such as, in my opinion, fully justified the remarks made in our original letter of the 15th December; and they are in no way warranted in asserting, as they do in paragraph 7 of their present letter, that the large works they wished to commence were such as "have been well examined and approved."

15. Since this minute was commenced the Government, at the meeting of Council yesterday, have resolved on the course which it is expedient to take with reference to the Resolution of the Bombay Government under date the 26th January, in which a direct and public attack is made upon the President in Council, and it has also been settled what notice shall be taken of the resolution of the 25th idem, laying down what are called "the general principles by which district officers should be guided in refusing "the aid needed to preserve life." These documents do not, therefore, call for any further remarks from me except with reference to one observation in the Resolution of the 26th January, I allude to the remark made in the 6th paragraph of that Resolution, that the position was still further complicated by our letter of the 28th October inviting the attention of the Government of Bombay to the Resolution of the Government of India of the 18th February 1875, which, in paragraph 12, favours the policy of commencing with large works. I think it is to be regretted that the reference made in our letter to the Resolution in question was not accompanied by some qualifying remarks, but I cannot perceive that it has caused any practical complication or difficulty in the position of the Bombay Government. It certainly did not lead them to abstain from sanctioning minor works, for both before and since the withdrawal of our restrictions on large works, the Government of Bombay have sanctioned numerous small works. If the Bombay Government entertained any doubt as to the meaning of the Government

Minute by
Sir Alex. J.
Arbuthnot
on the action
of the Bom-
bay Govern-
ment.

Minute by
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ment.

of India, that doubt could at once been set at rest by a telegram. The only other paper to which I need advert, is the note framed by General Kennedy, the Secretary to the Government of Bombay in the Public Works Department, "on the general policy of the Government in connexion with the Bombay famine," which is open to criticisms very similar to those which I have applied to the letter of the 18th January, and the publication of which appears to me to have been extremely improper. Here, again, the action of the President in Council is grossly misrepresented. It is alleged that "one class of works that has been entirely objected to by the President in Council is that of tanks, other than those of small dimensions"; the fact being that no such objection has been taken, the only restriction imposed being that in the case of tanks or other irrigation works estimated to cost more than Rs. 30,000, the previous sanction of the Government of India should be obtained. The necessity for some restriction is, I think, sufficiently established by the case of the Maswad tank to which I have already alluded.

No. 42.

No. 43.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Dated Calcutta, the 2nd February 1877.

Views of Go-
vernment of
India in
regard to
preservation
of life.

The attention of the Government of India has been drawn to the Resolution of the Government of Bombay, No. 50 E.—158, dated 25th January. This resolution begins by referring to previous orders of the Bombay Government, under which "the village officers were directed to take care that no person is allowed through obstinacy to die of starvation"; it says that "this injunction was quite in conformity with the principle on which the Government was then acting, viz., that no person was to be allowed to die of starvation if it was in the power of the Government to prevent it"; and the Government of Bombay then proceeds to modify its former instructions. The new orders are accompanied by observations which imply that there are circumstances in which relief is to be withheld, even though it may be necessary to save life, and the instructions lately issued to Sir Richard Temple by the Government of India are quoted as the reason for this change of policy.

2. The views of the Government of India appear to have been seriously misunderstood. The Government of Bombay seems to think that the Government of India has laid down the doctrine that there are certain circumstances in which the Government ought to allow people to die of starvation, although it may be in its power to prevent it. The Resolution to which reference has been made states that the instructions to Sir Richard Temple "do not lay down any general principles by which the district officers should be guided in refusing the aid needed to preserve life, and that his Excellency in Council would view with satisfaction the issue of supplementary instructions on that point." It cannot be stated too strongly that the Government of India has never had any such views as those which the Government of Bombay supposes it to have expressed, and it is now necessary further to explain the opinions which his Excellency in Council actually holds, and which he believes have been fully understood by Sir R. Temple, in whose instructions it was endeavoured to state them with clearness and precision.

3. The second paragraph of those instructions contains a general statement of the principles by which our policy ought to be guided. Those principles may be summarised and repeated as follows:—It is no more the duty of the Government to prevent all distress in time of famine than in other times, but it is the duty of the Government to spare no effort which may be possible to save the people from starvation and from an extremity of suffering dangerous to life. Paramount as this duty is, and fully as it is accepted by the Government of India, it is obvious that it could not be adequately performed if it involved the necessity of an expenditure beyond the power of the country to bear, and which might go far to render the future good government of India an impracticable task. This may seem to be a truism, but it was necessary to state it, because it has often been assumed that the Government was placed in this dilemma, viz., that in times of severe famine it must either allow people to die of starvation or incur expenditure which might ultimately bring ruin upon the country. The Government of India has denied that any such dilemma exists, and has confidently asserted that the history of past famines shows that the duty of preventing loss of life and extreme suffering can be efficiently discharged without incurring charges disastrously heavy. This opinion, however, will only be justified if every effort be made to prevent relief being given to

those who do not actually require it, and to exact the application of the strictest practicable tests and rules, so that no more relief shall be afforded than is absolutely necessary to ensure the fulfilment of the object in view.

Views of Government of India in regard to preservation of life.

4. In laying down instructions of a purely official character relative to the management of relief operations by the officers of Government, the Governor-General in Council thought it out of place and unnecessary to give assurances of his sympathy with suffering, or to dwell on his determination, which he thought had already been made sufficiently clear, that no one shall die of starvation if it be in the power of the Government to prevent it. In regard to the duties which humanity imposes upon the Government, there has not been, and will not be, any change of policy. We say that human life shall be saved at any cost and at any effort; no man, woman, or child shall die of starvation. Distress they must often suffer; we cannot save them from this. We wish we could do more, but we must be content with saving life and preventing extreme suffering, and it taxes all our efforts and all our resources to accomplish even this. In regard, therefore, to the inquiry which has been made by the Government of Bombay as to the "general principles by which the district officers should be guided in refusing the aid needed to "preserve life," the reply must be that there are no such principles, and that there are no circumstances in which such aid can be refused.

5. The Resolution of the Government of Bombay, No. 26 E.—93 of 1877, dated the 18th January, "approved of certain orders issued by the Revenue Commissioner, "Southern Division, prescribing the mode of dealing with labourers employed on relief "works, who might think fit to leave them from dissatisfaction with the rules laid down "by the Government for regulating the rate of wages." The Governor-General in Council agrees with the Government of Bombay in generally approving the Revenue Commissioner's orders; but this approval is subject to one exception. By those orders the village officers were required to watch all persons who had left the works, and to "take care that no person is allowed through obstinacy to die of starvation." The Governor-General in Council does not believe that any one ever died of starvation through obstinacy, and certainly no rules for dealing with such cases can be necessary. Under almost all circumstances which, if the Government of India is rightly informed, are likely to hold good in the distressed districts of the Bombay Presidency, where the population is almost wholly agricultural, and accustomed to field and other manual labour, the rule laid down by the Government of Bombay appears quite proper. That rule is, that "in the case of an individual refusing to perform work which he is capable "of doing on the terms fixed by Government, no relief shall be afforded him at the "public expense during the continuance of such refusal." The result of such refusal will certainly, in the case of agricultural labourers, not be death from starvation. The Bombay Government, however, will doubtless bear in mind the fact that, unless circumstances are very different in Bombay from those in the Bengal Presidency, there may be exceptional cases which will require exceptional treatment. There is, for example, the class of respectable women who cannot appear in public, and for whom the ordinary labour-tests are altogether inappropriate. There may also be men who, on account of caste or other prejudices or feelings, would rather die than take employment on relief works. Ordinary rules will evidently not be applicable to such cases, which must be dealt with as they arise. These views are, in regard to the main principle involved, identical with those stated in paragraph 7 of the instructions to Sir R. Temple, which distinctly contemplate the possible existence of circumstances under which it may be necessary to give relief without the application of the ordinary tests.

6. I am to state in conclusion that, while the Governor-General in Council regrets that his views in regard to the duty of sparing no efforts to save life should have been misunderstood, he feels sure that there is really no difference of opinion between the two Governments on this subject. He is satisfied that the Bombay Government and its officers are as anxious and as determined as he is himself that no loss of life shall occur which can be prevented by the Government. The Governor-General in Council notices at the same time with much satisfaction the efforts which are being made to prevent the relief works from becoming too attractive, and to prevent relief being given to those who do not really require it.

No. 43. *has it subject relation to of civil code*

No. 200.

No. 7. of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Calcutta, 2nd February 1877.

No. 20.
No. 42.

We beg leave to forward for your Lordship's information copies of a Resolution passed by the Government of Bombay on the subject of the prevention of death by starvation in time of famine, and of the letter which we have caused to be addressed to that Government on the subject.

We have the honour to be, &c.

(Signed) LYTTON.

H. W. NORMAN.

A. HOBHOUSE.

E. C. BAYLEY.

A. J. ARBUTHNOT.

A. CLARKE.

J. STRACHEY.

No. 44.

No. 200.

No. 8. of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

2nd February 1877.

The action
of the Bom-
bay Govern-
ment.

*No. 22.

We beg to invite your Lordship's attention to the accompanying Resolution* of the Government of Bombay, dated the 26th ultimo, which was published in the local newspapers on the date of issue, and which purports to supplement, with the information necessary to the full understanding of the bearings of the case, the reports of Sir Richard Temple on the famine in Bombay (Nos. I. to IV.), which we published in the "Gazette of India" of the 20th ultimo.

2. The Government of Bombay has, in this resolution, endeavoured to show that two distinct policies have been followed by the Government of India in dealing with the principles on which relief operations were to be conducted. It states that the first of these policies is wrong; that it was the cause of grave embarrassment to the Government of Bombay; that it has been the origin of the defects pointed out by Sir Richard Temple in the system of relief adopted in that Presidency; and that this policy was the policy of the President in Council, into whose hands, "in consequence of the departure of his Excellency the Viceroy on tour, the administration of the Government of India fell." The second policy, it is stated, was right; it was in accordance with the views which the Government of Bombay had always maintained; it has now been adopted by the Government of India in its instructions to Sir Richard Temple; and this policy was that of the Viceroy himself. Every effort is made to bring out strongly the supposed contradiction between the views of the Viceroy, which to the satisfaction of the Government of Bombay now prevail, and those of the Government of India, as expressed by the President in Council, during the absence of his Excellency.

3. If the Government of Bombay believed these facts to be true, and if it were acting for the public good under an impression that there had existed some conflict of opinion between the Viceroy and the President in Council, we find it difficult to understand, considering the terrible gravity of the circumstances, how the admitted reconciliation of this assumed difference, in a sense favourable to its own views and wishes, could have appeared to that Government a proper and legitimate occasion for the public attack thus made by it on the Government of India. The propriety of such a proceeding, under any circumstances, we leave with confidence to the appreciation of your Lordship. But in the presence of one of the greatest calamities recorded in the history of the Empire, it might, we think, have been presumed that a sense of common responsibility would have induced the Government of Bombay to abstain from aggravating any cause of conflict or irritation which could weaken the authority, or add to the difficulties of the Government of India. At such a moment it might have been expected that even if the Government of Bombay thought our views erroneous or our conduct mistaken, it would, at least, have given the Government of India credit for an honest desire to do what it believed to be right, and would not have chosen an opportunity so inappropriate to publish to the world

a Resolution in which it practically invites the public to share the contempt it feels for our assumed errors and divided counsels.

The action
of the Bom-
bay Govern-
ment.

4. As an illustration of the spirit by which the Government of Bombay seems to have been animated, we desire in particular to call your Lordship's attention to the 9th and 10th paragraphs of its resolution. The fact is there prominently noticed that a letter dated the 15th December, expressing the dissent of the President in Council from certain measures adopted by the Government of Bombay, was subsequently withdrawn, and that another letter, in a very modified form, was substituted for it. The conclusion which the public will certainly draw from these paragraphs is, that there has been a transaction of somewhat suspicious character, or questionable propriety, and that this is another and significant illustration of the divided counsels of the Supreme Government. The truth is, however, that the Viceroy, after personal communication with the Governor of Bombay, believed that if portions of a letter dated the 15th December, which during his Excellency's visit to that city was received by the Bombay Government from the Government of India, were modified, some of the differences of opinion which had arisen between the two Governments might be removed. The letter was modified accordingly with our unanimous concurrence, and with a hope and expectation which his Excellency the Governor of Bombay was understood by us to share and encourage, that this step could only tend to render more amicable and satisfactory the existing relations between the two Governments. But even this measure, prompted by conciliatory motives alone, has now been turned against the Government of India in a manner which not only involves a grave infraction of official propriety, but also constitutes a breach of that decorum and courtesy without which neither public nor private affairs can be satisfactorily conducted.

5. If, therefore, the facts in question had been correctly stated by the Government of Bombay, this would, we submit, have constituted no excuse for its present proceeding, but would have been, on the contrary, an aggravation of the breach of official propriety committed by that Government. The Viceroy, however, desires to place on record his emphatic repudiation of the position attributed to him by the Government of Bombay in reference to the views which it has misunderstood and the facts which it has mis-stated. Between the policy approved by the Viceroy and that which was carried out, during his Excellency's absence on the frontier, under the orders of the President in Council, there has been no contradiction. That policy, so far as it concerns the relations between the supreme and local Governments in reference to famine management, laid down two paramount conditions; 1st, that the local Governments should strictly abstain from all interference with private trade not previously sanctioned by the Government of India; 2nd, that no public works, involving heavy and permanent burdens on the Imperial treasury, should be undertaken for purely relief purposes, unless approved by the Government of India, on the ground that their completion would so permanently benefit the Empire as to entitle them to precedence over others of a similar character, or that the immediate commencement of them (should it hereafter be found necessary to suspend their construction) would not involve an absolute waste of money.

6. It must be remembered that, when these conditions were laid down for the guidance of our correspondence with the Governments of the affected Provinces, those Governments were no more able than ourselves to say whether the then incipient scarcity would prove temporary and local, or widespread and serious. Bearing this fact in mind, and in accordance with the above-mentioned principles, we deemed it expedient to urge upon the local Governments the propriety of confining their efforts to local relief works of a minor character, and, if possible, close to the homes of the suffering populations, in preference to the commencement of larger, more expensive, and more remote operations, so long as the character of the difficulty to be dealt with remained reasonably questionable. In so doing we were influenced by our experience of similar situations on a recent occasion, when, had we prematurely adopted certain urgent recommendations for the commencement of relief works on a large scale, the Government of India would have been burdened with a heavy expenditure, justified only by exaggerated anticipations of the progress of a scarcity, which afterwards proved to be brief and inconsiderable.

7. In the expediency of this advice the Government of Bombay fully concurred. The main reason why the sanction of the President in Council was provisionally withheld from some of the relief works subsequently advocated by the Government of Bombay was neither the size of those works nor the cost of them, but the fact that the proposal to commence them immediately was unaccompanied by any information enabling the Government of India to know, even approximately, the extent and duration of the expenditure it was asked to undertake on their account.

The action
of the Bom-
bay Govern-
ment.

8. A single instance will suffice to illustrate this fact. In proposing the immediate commencement of the Mhaswad Tank, the Government of Bombay requested sanction for an expenditure of four lakhs, without stating whether this expenditure represented the amount of a preliminary allotment or that of the total estimated cost of the work. The information received at a later period showed the total cost of this work as then estimated to be 14 lakhs; and the information furnished at a still later period raised the estimate to over 18 lakhs.

9. Whether, under such circumstances, the President in Council was, or was not, justified in calling for further information is a question which we must respectfully leave to your Lordship's decision. But we wish to explain that, in doing so, he was under the impression that the information asked for might have been promptly furnished; and he had no desire to hamper, irritate, or embarrass the Government of Bombay by unduly prolonging a vexatious inquiry. In so far as this may have been the practical, though certainly unintended and unanticipated, effect of the later correspondence between the two Governments, that result can be regretted by none more sincerely than by the Government of India. It is not, however, a result in anywise attributable to a conflict of opinion between the President in Council and the Viceroy, who were in close communication and accord with each other throughout every stage of the correspondence in question.

10. The visit of the Viceroy to Bombay, where he was met by Sir John Strachey, afforded opportunities for personal explanations, which fully satisfied both his Excellency and our Financial Colleague that some of the works in regard to which the President in Council had, up to that period, deemed it his duty to suspend the sanction of the Government of India, were proposed on sound principles and urgently needed. Both the Viceroy and Sir John Strachey, moreover, were led, by what they saw and heard upon the spot, to the conclusion that relief works on a scale, and in accordance with principles which we had always contemplated as necessary in the event of a scarcity ascertained to be really serious and widespread, had been too long delayed in Bombay, and ought to be immediately commenced.

Whether this delay was partially or even wholly attributable to the Government of India, under the circumstances we have endeavoured to explain, is a point on which we do not presume to be the judges of our own conduct. But, on receipt of the information furnished, first to the Viceroy, and immediately afterwards by him to his colleagues in Council, the Government of India unanimously concurred in the view taken of it by his Excellency; as also in the approval publicly expressed by the Viceroy of the general soundness of the principles, and efficiency of the measures adopted by his Excellency the Governor.

11. Although, therefore, a practical change of policy was coincident with the Viceroy's return to the head-quarters of the Government, that change was in accordance with the opinion of a unanimous Council, and the reasons of it, which are obvious, have already been indicated in the instructions to Sir Richard Temple. The Government of Bombay was necessarily in a better position than ourselves for determining whether the time had arrived for undertaking the larger class of works, the expediency of which, under certain circumstances, we had never doubted or denied; and looking back on the past, we fully acknowledge that in our anxiety to prevent needless expenditure of money, involving us in heavy future responsibilities, it is possible that we may have delayed too long in recognising and acting upon the fact that the time for undertaking public works on a scale of greater magnitude had arrived, both in the Bombay and Madras Presidencies. It is fortunate that no more serious questions are involved. The Government of Bombay thinks that the result of our action has been that too much, not too little, relief has been given.

12. In conducting difficult operations under circumstances so anxious as those with which we have unhappily now to deal, we do not claim for ourselves any immunity from error. We have done, and shall continue to do, our best to mitigate the terrible calamity which is afflicting the Empire; and we know, and cordially acknowledge, that the Governments of Madras and Bombay, and all their officers, are devoting themselves to the same task with an anxiety and zeal which cannot be exceeded. Mistakes will, doubtless, be committed by all concerned; but all have equally at heart one common object, the attainment of which can only be assured by mutual forbearance and cordiality, and a loyal subordination of every other consideration to that of the public weal.

13. We propose to submit to your Lordship by the next mail some further papers recently received from the Government of Bombay, accompanied by a memorandum in which we shall recapitulate, and more fully explain, the salient points of the correspondence

between the two Governments, in so far as it has reference to the questions raised in the Resolution forming the subject of our present Despatch, and in the other papers above alluded to.

We have the honour to be, &c.

(Signed) LYTTON.
H. W. NORMAN.
A. HOBHOUSE.
E. C. BAYLEY.
A. J. ARBUTHNOT.
A. CLARKE.
J. STRACHEY.

No. 45.

Telegram, dated 2nd February 1877.

No. 49. 66.

From REVENUE SECRETARY, Madras, to REVENUE ADDITIONAL SECRETARY, Calcutta.

Yours, 26th, about remissions of land revenue. Principle of assessment is a share of crop; wet land, when crop is lost for want of water, receives remission by prescriptive custom; dry land, when crop is lost, receives remission under special order of Board of Revenue. To introduce now suspension where remission customary would tend to check attempts at cultivation, which it is desirable to stimulate. Letter follows.

Land revenue remissions.

No. 46.

No. 151, dated Bombay Castle, 2nd February 1877.

No. 66.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO SIR R. TEMPLE.

I am directed to acknowledge the receipt of your letter, No. 41, dated 27th January, and accompaniments, and, in forwarding copy of a report, dated 31st idem, from the Consulting Engineer for Railways, to observe that the Great Indian Peninsula Railway Company appears to be doing all that can be demanded of it, and even more. The failure to deal with the traffic at Raichore on the part of the Madras Railway Company is what at present prevents more grain being carried to the Madras famine districts, and the Great Indian Peninsula, as is quite manifest, could not afford more help by doing less, *i.e.*, by limiting the traffic. So long, however, as the Madras Railway fails to carry away from Raichore what the Great Indian Peninsula Railway brings, the grain must accumulate there; and if a block of waggons results, as was the case early in January, the work of the entire Great Indian Peninsula line, and of lines working into it, as well as the special grain traffic for Madras, is more or less impeded. The only plan to adopt under such circumstances is to stop further accumulation, clear the block, and release the stock as soon as possible by emptying the waggons. There is this to be said, that grain intended for the Madras Presidency accumulated at Raichore is so much nearer its destination than it would have been if the Great Indian Peninsula Railway had not brought it down at all, but the inconvenience is very serious, and every possible means should be taken to induce the Madras Railway Company to strengthen this weak link in the chain.

Railway grain traffic. Means of preventing block.

No. 47.

No. 152, dated Bombay Castle, 2nd February 1877.

No. 66.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

I am directed to forward, for information, copy of a letter addressed to the Hon. Sir Richard Temple, Bart., K.C.S.I., on the subject of the grain traffic by railway into the famine districts of the Madras Presidency.

XXVI.—FURTHER MEMORANDUM by MR. BERNARD, Secretary to Sir R. Temple, regarding the NORTH ARCOT DISTRICT.

Muddanapally, 2nd February 1877.

North Arcot district.
*Part II.,
pp. 54-5.

Since the memorandum of the 20th January was prepared, regarding the North Arcot district,* Sir Richard Temple saw at the relief camps at Madras a large number of persons from the North Arcot district who had been reduced by want to a very deplorable condition before they came to the relief camps. He also had the opportunity of hearing the views of the Inspector-General of Police concerning the condition of the people in the great zemindaris to the north of the district, where Colonel Hearne had recently been on tour. Colonel Hearne's impression was that a great number of people in the worst parts of the North Arcot district were in very severe distress indeed, and that many of them must soon die of hunger. The Collector and the native officials whom Sir Richard Temple had met had not considered the situation to be quite so critical. Still he deemed it best again to see the North Arcot officers and to visit, if possible, some of the worst parts of the district.

2. First, Sir Richard Temple went to Raneepet, the residence of the Sub-Collector, Mr. Austin, close to the town of Arcot. Mr. Austin seemed to be sufficiently prepared to relieve people who might be in absolute need near Arcot. A large relief camp was nearly ready, and casual people in severe distress were being relieved at the hospital of the American Mission until the relief camp should be ready.

3. Of the taluks in that part of the district, Chandragiri appeared to be the worst off, but as yet relief works had not been opened there. Sir Richard Temple was of opinion that the condition of the people in Chandragiri required that relief works should at once be opened there. The Range Officer, Lieutenant Hamilton, R.E., appeared able and ready to do all that was necessary. But there seemed to be some departmental difficulty* connected with estimates or district rates, or the contract system, which prevented Lieutenant Hamilton from setting at once to work with relief labourers on sundry irrigation improvements which were much wanted in Chandragiri. Such difficulties could at once be removed by a superior officer, who might go to the spot with full power to direct all relief operations in all departments; for the local officers have manifestly every desire to do their best and to work together. But meanwhile

* NOTE. — It seemed to Sir Richard Temple that a somewhat similar difficulty prevented Mr. Gribble and Mr. Traill, the Civil Officer and the Range Officer, working together for relief. Each was anxious to help the other; and Mr. Traill's subordinates are all of them helping on Mr. Gribble's relief works. But for some reason the mutual help was not given in the way which by both officers was deemed the most convenient.

time is going on, and the people in some of these parts may be drifting into severe distress.

4. One of the Reverend American Missionaries, Mr. Wickoff, who had just returned from a tour in part of South Arcot, informed Sir Richard Temple that he saw much distress, and in some cases physical emaciation from want of food, in the Dinderanum taluk and in the north part of the Vellapooram taluk. He named villages where his mission had to help certain Christians who were wholly without food or means of earning it; and he expressed his belief that in the tracts he named were many villages who could not hold out much longer unless relief of some sort were made available. Relief works had, he said, been opened in the parts of Chingleput bordering on these tracts. But relief works were, he considered, required in that part of North and South Arcot.

5. From Arcot Sir Richard Temple went to Vellore, where he learned that there was some hitch about the establishment of a relief camp outside Vellore, for which the Sub-Collector, Mr. Irvine, had made full preparation. Meanwhile, 7,000 people were receiving daily a gratuitous dole of uncooked rice. There is risk that this open-handed outdoor relief will be abused; and it was understood that cases of such abuse had come to light. It is to be hoped that the relief camp at Vellore may soon be settled.

6. After discussion with the Collector, Mr. Whiteside, it seemed to Sir Richard Temple that two other relief camps were required on the routes leading from the North Arcot district to Arconum; so that the poor creatures who may have left their homes for Madras may be stopped and relieved at local relief camps.

7. From Vellore to Chittoor (the district head-quarters) the road lay through valleys that were, for such a season as this, very well watered, and had fairly good crops growing. At Chittoor itself there is at present little distress; and but few relief gangs were in the immediate neighbourhood. A relief camp is in progress there. The road

to Muddanpally from Chittoor led through rocky gorges and over hills, where there was scarcely any population. At the taluk head-quarters of Palmonier the town people seemed to be well off; ragi was selling there at 9 seers per rupee. But in the extreme northern corner of the district lies the zemindari (poligarship) of Punganoor with a population of 110,000. The Zemindar, though charitable, is yet unable to do much for his people, unless the Government should be pleased to suspend a part of his tribute (peshkash) for a year. About 5,000 relief labourers are employed under Mr. Clarke, of the Settlement Department, on road works near Punganoor. Sir Richard Temple inspected about 3,000 of these people; and, so far as he could judge, the great majority of them were poorly off and were in actual need of relief wages. It appeared that the relief now given suffices for the present. The opinion of the poligar (Raja), of Mr. Clarke, the relief officer, and of the native officials was, that if the relief works in this quarter had not been opened, there must already have been many deaths from starvation.

North Arcot district.

8. Sir Richard Temple's impressions are in brief—

- (1.) That the Collector and his most trusted European subordinates ought at once to visit the tracts of Chandragiri, Tripetty, and parts of the two north-western zemindaris, and immediately open relief works where they may be needed.
- (2.) That the completion and economical organisation of the Vellore and Rancepet relief camps, and of two additional camps towards Arconum, should be pressed on.
- (3.) That enough, though barely enough, is being done in the way of relief towards Punganoor, Vellore, and in part of Mr. Austin's subdivision, but that the Poligar of Punganoor should be moved to cause an examination to be made of every village in his zemindari.
- (4.) That although the Collector had justly held back as long as he could with safety, yet that in the eastern part of the district further holding back would be no longer compatible with safety, and that measures ought now to be undertaken for relief.

No. 49.

Telegram, dated 3rd February 1877.

Nos. 58. 66.

From REVENUE SECRETARY, Bombay, to ADDITIONAL SECRETARY, Calcutta.

Please telegraph orders of Government of India on my No. 401 of 22nd ultimo.* This Government is of opinion there should be entire remission of land revenue to such extent as may be necessary.

Land revenue remissions.
*No. 8.

No. 50.

MINUTE by SIR RICHARD TEMPLE, dated Bangalore, 4th February 1877.

No. 66.

In reference to minutes and memoranda regarding districts of Kurnool, Bellary, Cudapah, North Arcot, Salem, Coimbatore, Madura, and Tinnevely, I desire to explain, in case these papers be published, that the Madras Government have ordered various measures of economy in relief and such restrictions of expense as are compatible with the safety of the people, which orders are actually being carried out in the interior of the districts. Though there may yet be important discussions on details, yet I trust that there is general accord in principle. I have to acknowledge, in the strongest terms, the kind way in which I have been met by the Madras Government and by all its officials, and the generous support I have received from them. I must also bear witness to the zeal, devotion, and humanity with which the relief operations have been undertaken in this Presidency.

Support received by Sir R. Temple from Madras Government and officials.

Estimated
relief expen-
diture in
Madras
Presidency.

2. As with the estimate of Bombay relief expenditure, so in the present case, the numbers expected to come upon the relief works form the main factor of any estimate of probable relief expenditure in the Madras Presidency. In the appended statement is offered an estimate of the number of relief labourers that will probably be in receipt of relief wages in each distressed district, month by month, up to the end of July next. On the reverse of the statement will be found notes, showing on what grounds, or on whose authority, the maximum number of relief labourers in each district is estimated. It is during the month of April that the number is expected to be highest; and the total of relief labourers in all districts during that month is estimated at 1,840,000 persons. This total is larger than the April total (1,405,000 labourers) taken in the Revenue Board's estimate. But since that estimate was framed the distress has declared itself further, and it has taken a much severer form in districts which even in December were sorely stricken.

4. Further, it will be seen that the present estimate reckons on the numbers decreasing in May, and on the relief labourers all disappearing to their homes by the end of July. The best authorities appear to expect that this will be the course of events, provided that the usual April showers come and that the south-west monsoon (the early rains) comes seasonably. In ordinary years rain falls in April and May in quantities varying from five inches to one inch in the different districts; and the monsoon breaks (that is, the rainy season begins) about the 2nd June. If, unhappily, the April showers should be withheld, or if the rainy season should begin unfavourably, then the present forecast would be exceeded.

Total number of labourers in February	-	-	-	1,228,000
„ „ March	-	-	-	1,480,000
„ „ April	-	-	-	1,840,000
„ „ May	-	-	-	1,530,000
„ „ June	-	-	-	795,000
„ „ July	-	-	-	310,000
Total	-	-	-	<u>7,183,000</u>

6. The cost of relief wages for the month of January must be taken at an average of Rs. 3 per labourer ; for the reduction of wages recently ordered cannot take effect until after the end of January. The relief wages for January, with an average of 1,039,000 persons on the works, will amount to Rs. 31,17,000.

7. The actual expenditure on relief works and extra establishments up to the end of December according to a return received from the Accountant-General of Madras has been Rs. 37,25,000, and the cost of purchasing grain for Government has been Rs. 30,24,000. Relief expenditure in Madras Presidency.

8. It will, perhaps, suffice if ten per cent. on the six months' relief wages be estimated for extra establishments, temporary buildings, and miscellaneous charges; for the Madras Government has been economical in the matter of establishments.

9. It is difficult to foresee how many persons may become recipients of gratuitous relief. At present the numbers are comparatively small, only about 60,000 in all. But in many districts gratuitous relief has not yet begun, and it is certain that the numbers on charitable relief will increase very greatly in the hot months, and at the beginning of the rainy season. An estimate of 10 per cent. on the relief wages for six months (Rs. 18,00,000) would suffice to give gratuitous relief at the cost of one anna per head per diem to—

50,000	persons	during	the	month	of	January.
100,000	"	"	"	"	"	February.
250,000	"	"	"	"	"	March.
500,000	"	"	"	"	"	April.
600,000	"	"	"	"	"	May.
700,000	"	"	"	"	"	June.
500,000	"	"	"	"	"	July.
160,000	"	"	"	"	"	August.

The cost of gratuitous relief at the Red Hills camp near Madras comes to $2\frac{1}{4}$ annas per head per diem. But the inmates there are, many of them, in a much reduced condition, and so they have been allowed somewhat better food than usual. At the Salem district relief camps the Collector expects to keep the cost of gratuitous relief down to one anna per head per diem. Perhaps it will suffice to estimate the cost of gratuitous relief at Rs. 18,00,000.

10. The grain purchased by Government will be used in payment of relief wages, or in issuing gratuitous relief, or in both. There will be some charges for transporting this grain to the interior and for storage, and there will be some loss by wastage. If allowance be made for these charges, perhaps 75 per cent. of the cost of the Government grain may be taken as a set-off against other famine charges.

11. The total of the estimate will then be—

	Rs.
Relief works and other expenditure according to the Accountant-General's statement up to end of December - - -	37,25,000
Estimated expenditure on relief works wages during January -	31,17,000
Estimated expenditure on relief works wages during the six months February to July - - - - -	1,79,00,000
Estimated cost of additional establishments and miscellaneous charges - - - - -	18,00,000
Estimated cost of gratuitous relief - - - - -	18,00,000
Cost of grain purchased by Government - - - - -	30,24,000
Total - - -	3,13,66,000
 Deduct as a set-off three-quarters of cost of Government grain, as that grain will be used to pay labourers or relief paupers -	 21,66,000
Total - - -	2,92,00,000
Or say - - -	£2,920,000

12. The totals of this forecast are liable to be exceeded if the next season should prove unfavourable, if the recent instructions for reducing relief wages and restricting relief expenditure cannot be maintained, or if distress in an aggravated shape should break out in the extreme south of the peninsula, on the Malabar coast, or in Ganjam and the Godavari districts.

Relief ex-
penditure in
Madras
Presidency.

STATEMENT appended to MEMORANDUM estimating the TOTAL RELIEF EXPENDITURE in MADRAS FAMINE DISTRICTS during the Years 1876 and 1877.

Name of District.	Total Population.	Total Numbers on the Works on the				Estimated Number of People on the Works during the Month of								Total of the Six Months, February to July.
		26th December.	9th January.	16th January.	23rd January.	January.	February.	March.	April.	May.	June.	July.		
Nellore -	1,375,000	4,000	55,000	64,000	59,000	60,000	80,000	100,000	120,000	80,000	50,000	20,000	450,000	
Cuddapah -	1,350,000	132,000	201,000	195,000	195,000	200,000	220,000	250,000	300,000	250,000	150,000	50,000	1,220,000	
Kurnool -	1,000,000	203,000	310,000	308,000	298,000	300,000	320,000	340,000	360,000	300,000	150,000	70,000	1,540,000	
Bellary -	1,650,000	332,000	401,000	400,000	356,000	390,000	390,000	420,000	450,000	400,000	200,000	100,000	1,960,000	
North Arcot -	2,007,000	28,000	22,000	21,000	21,000	21,000	80,000	100,000	130,000	150,000	80,000	30,000	570,000	
Chingleput -	940,000	7,000	10,000	12,000	14,000	12,000	20,000	40,000	60,000	60,000	40,000	20,000	240,000	
Salem -	1,200,000	15,000	37,000	15,000	22,000	25,000	30,000	50,000	70,000	60,000	40,000	20,000	270,000	
Trichinopoly -	1,200,000	—	—	—	1,000	1,000	10,000	15,000	25,000	10,000	10,000	—	70,000	
Coimbatore -	1,750,000	9,000	6,000	18,000	20,000	15,000	30,000	50,000	100,000	50,000	20,000	—	250,000	
Madura -	2,250,000	5,000	5,000	6,000	5,000	5,000	8,000	15,000	25,000	20,000	5,000	—	73,000	
Tinnevely -	1,700,000	6,000	10,000	9,000	3,000	5,000	20,000	50,000	100,000	80,000	20,000	—	270,000	
Kistna, Godavari, and South Arcot.	4,740,000	4,000	4,000	4,000	6,000	5,000	20,000	50,000	100,000	70,000	30,000	—	270,000	
Total -	—	—	—	—	—	1,039,000	1,228,000	1,480,000	1,840,000	1,530,000	795,000	310,000	7,183,000	

REMARKS.

Nellore.—Sir Richard Temple has not yet visited Nellore. But it is known that in a part of the district there was a failure of crops; that relief works are attracting many thousands, both from the inland taluks of Nellore and from the east of Kurnool. Possibly the maximum of 120,000 may be exceeded, as a large and excellent work is in progress there. But distress is not expected to spread over the whole district.

Cuddapah.—On the occasion of Sir Richard Temple's visit, the Collector was not able to say decidedly what he expected to be the highest number on his relief works. But he hoped to carry out carefully such orders as might be issued for preventing people who could support themselves from coming upon the State for relief. In the south of his district there seemed to be room for some economies in relief administration, and already the Collector has succeeded in arresting the previously rapid rate of increase in the numbers on his works; 300,000, or 100,000 above the present totals, have therefore been taken as the probable maximum.

Kurnool.—The native officials estimated that eventually 500,000 people would come upon the relief works. Mr. Davidson, the new Collector, hoped to keep the number from very greatly exceeding the present total. The numbers have not increased during the last few weeks; they now stand at 298,000; and perhaps the maximum may never exceed 360,000, the number taken for April.

Bellary.—The native officials expected 900,000, or much more than half the population, to come upon the works. Mr. Master, the Collector, hoped that the maximum would never greatly exceed the then total, 405,000. It has since fallen to 356,000. And perhaps the maximum now taken, 450,000, will not be exceeded.

North Arcot.—The Collector's estimate of the expected numbers has been adopted; see paragraph 9 of the North Arcot memorandum. This allows for a very large increase in the number of recipients of relief wages.

Chingleput.—The estimated numbers here taken were seen and were accepted by the Collector as sufficiently liberal.

Salem.—The Collector's own estimate of the probable numbers has been here taken.

Trichinopoly.—The estimated numbers taken for this district are based on the Assistant Collector's oral statements, and they may be open to revision in case distress declares itself in parts of Trichinopoly.

Coimbatore.—The Collector considered that he might possibly have to provide works for 150,000 at the very worst period; but in the present estimate 100,000 has been taken as the probable maximum in April. As yet the numbers in Coimbatore are not high, and the rate of increase is not very rapid.

Madura.—The Collector's figures are taken, but it must be noted that his estimate will, as he pointed out, be exceeded if his proposals for the Court of Wards expenditure in permanently settled zemindaris are not accepted.

Tinnevely.—For this district the Collector's maximum has been taken; but in view of the good condition of a large part of the district and of the facilities for trade and temporary emigration, it may be hoped that the maximum will not be reached.

Kistna, South Arcot, and Godavari.—These districts are not distressed as a whole, and probably will not be. Still there has been failure of harvest in parts; and the officers who know those tracts anticipate that relief works may have to be provided on a considerable scale in parts of these districts before the next harvests come in.

Relief ex-
penditure in
Madras
Presidency.

No. 52.

XXVIII.—MINUTE by SIR RICHARD TEMPLE respecting the estimated Relief Expenditure No. 92. of the Madras Presidency during the Years 1876 and 1877.

Bangalore, 4th February 1877.

In reference to my minutes of the 19th ultimo and of the 22nd idem, recommending that in the Madras Presidency a stricter check than heretofore should be applied to the admission of persons to the relief works, that admission should be granted to those who appeared, or were known, to be in real need, and that the relief wage should be reduced to an amount necessary to sustain life, I have duly observed the orders recently issued by the Government of Madras, which are calculated, if effectively carried out, to meet the above objects sufficiently well, and with all reasonable regard to the safety of the people. These principles will now, I trust, be introduced practically into the districts above the Ghâts (Bellary, Kurnool, Cuddapah), where relief operations had been already begun on a very extensive scale. They will, doubtless, be followed from the outset in the districts below the Ghâts (Arcot, Chingleput, Salem, Coimbatore, Madura, Tinnevely), where relief operations have not as yet been extensively undertaken.

2. I therefore think that the time has come when a preliminary estimate may be framed of the probable expenditure by Government for the relief of this famine and scarcity. Such an estimate is accordingly submitted herewith, accompanied by such explanation as seems called for regarding each item in the statement. It will be seen that the total expenditure is estimated at 2,920,000*l.*, of which 674,900*l.* had been already spent up to 1st January. The total number of persons on the relief works was expected to be 1,228,000 on the 1st February, and is set down; but I am not able to say for certain that this is the actual number. Within the last few days reductions have been going on in reference to the principles already alluded to in this minute, and I should hope therefore that the number may be really less, and more nearly approaching to the figure at which it actually stood on the 1st January, namely, 1,039,000. The number of those on charitable relief was 60,000 on the 1st February. The highest number is expected to occur in April, namely, 1,840,000 on relief works and 700,000 on charitable relief; in all 2,540,000.

3. If the usual spring showers of April or even May shall be vouchsafed, and if the checks already recommended and now ordered shall be carefully carried out, it is quite possible that the actual expenditure may be kept well within this estimate, and might even be sensibly less. If, on the other hand, the spring showers do not come, or if the checks be not strictly adopted, then this estimate may be exceeded;—indeed there might be a very serious outlay of money during April and May.

4. I can testify to the extreme anxiety of all the authorities throughout the Presidency to save human life from death by starvation. The checks now ordered are quite compatible with the attainment of this paramount object, while on the other hand they are calculated to prevent excessive expenditure. Meanwhile, it is most important to maintain an effectively vigilant supervision in all the distressed districts, over every village, every highway, every place where people either congregate or move about; so that no person who may fall into danger for want of sustenance can possibly escape observation and succour, and so that every individual case of this nature may be surely and speedily relieved.

5. This estimate of expenditure is, of course, irrespective of loss (temporary from suspension, or permanent from remission) of revenue, to which I will advert in a separate minute.

No. 53.

No. 66. From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Calcutta, the 5th February 1877.

No. 11. I am directed to acknowledge the receipt of your letter, No. 42 E.—126, of 23rd ultimo.

Commence-
ment of re-
lief works
left to dis-
cretion of
Bombay
Government.

2. With reference to its 3rd, 4th, and 5th paragraphs, I am to state that it was the intention of his Excellency the Governor-General in Council to leave entirely to the judgment of the Government of Bombay the question to be decided in each particular case on its own merits, whether the commencement of relief works is or is not necessary. On this point, therefore, it need only now be added that his Excellency in Council leaves the matter to the Government of Bombay, with complete confidence not only that it will be decided rightly, but that a wise economy, consistent with the duty of giving complete protection to the lives of the people, will be practised.

3. The views stated in paragraphs 6 to 9 of your letter are generally approved by the Government of India.

Dhond and
Munmar
Railway
agreed to.

4. With regard to the Dhond and Munmar Railway, referred to in paragraphs 10 to 18 of your letter No. 42 E. of 23rd ultimo, the Governor-General in Council authorises the commencement of the work, if, in the opinion of the Government of Bombay, this course becomes urgently necessary in consequence of more extensive relief works being required than those actually in progress. Work should, however, as far as may be practicable, be commenced only on those portions of the undertaking which, as noted in paragraph 14 of your letter, can be carried out without necessarily committing the Government to the immediate completion of the line when the present difficulties have ceased. The Government of India is not at the present time able to decide finally whether this line can be taken in hand with a view to completing the work.

5. With reference to paragraphs 19 to 23 of your letter regarding the Karwar and Bellary Railway, the questions connected with which are considered by you to be somewhat less urgently pressing, the Government of India will immediately place itself in communication with the Government of Madras and Sir Richard Temple on the subject, and the Bombay Government will be informed of the result with the least practicable delay.

6. With regard to the 25th paragraph of your letter, I am to state that the Bombay Government is right in assuming that the stipulations to which you refer would not apply to works of an Imperial character, such as the Dhond and Munmar line; and the Governor-General in Council fully admits the justice of the remark that, in applying hereafter any rules that may be laid down in regard to the enforcement of provincial responsibility for meeting the charges for extraordinary public works, due regard must be had to the special circumstances under which some of these works may be undertaken in the Bombay Presidency.

No. 54.

Nos. 61, 65. MINUTE by Major-General the Honourable SIR HENRY W. NORMAN, K.C.B., dated 6th February 1877.

Minute by
Sir H. W.
Norman on
the action of
the Bombay
Government.

The minute prepared by Sir Alexander Arbuthnot on the correspondence relating to the famine in Bombay places me under further obligation to him, and I desire, before I say another word, to record, in emphatic terms, my thanks to him and to the Secretary—who acted under his immediate directions, Mr. Hope—for their most anxious and unwearied exertions in connexion with the famine during the period that I was President in Council.

2. Various circumstances combined to throw on the President in Council, during the Viceroy's absence in October last, November, and December, an amount of work unusual during such cases of absence, and nothing but the most anxious attention on the part of Sir A. Arbuthnot and Mr. Hope could have enabled the work connected with the famine in Madras, Bombay, and Mysore to have been at all effectively dealt with. Although I most fully and completely accept all responsibility that may be considered to rightly devolve on me, I must give my honourable colleague and the Secretary credit for all the hard work that was involved.

3. As Sir A. Arbuthnot's minute will go home, I have little to add to it, or to the Despatch No. 8, sent on the 2nd instant. They seem to me to give a complete history

of our proceedings, and I do not see how those proceedings, during the Viceroy's absence, could have been very different from what they were. A policy was decided upon by the Government when his Excellency was with the Government, and it would have been quite improper for us to have changed that policy save on a most clear proof of the necessity for so doing, and after obtaining, if communication was possible, his Excellency's concurrence. It was our duty to keep the Viceroy informed of all that went on, and, as stated in the Despatch No. 8, there was perfect accord between his Lordship and his absent Council. Even the idea that large works should be resorted to, first expressed by Lord Lytton, after arrival at Bombay, had been almost anticipated at Calcutta on the 15th December, when his Excellency had not reached Bombay.

Minute by
Sir H. W.
Norman.

4. Therefore, not only was the Bombay Government wrong from every point of view in trying to force on the public the idea that the Viceroy, on the one hand, and the President in Council, on the other, held and acted on opposite opinions, but it is difficult to understand that they were not aware of this; for the instructions objected to were merely an enlargement of those communicated to them on the 4th and 16th October, when the Viceroy was with the Council, and all allusion to which is ignored in their resolution. They must have been perfectly aware that the Viceroy did not make over the charge at Simla till the 16th October, and therefore that important instructions sent on that day, and still more those sent 12 days previously, were not likely to be of a nature opposed to the Viceroy's views.

5. Further, it is impossible to understand how the Governor of Bombay, in his personal communication with the Viceroy at Bombay, alluded to in paragraph 4 of the Despatch No. 8, can have avoided becoming acquainted with the fact that the Viceroy was being urged to change his views and not to maintain those he had all along held.

6. It is out of place for me to add a word as to the impropriety of the conduct of the Bombay Government, which has been fully dealt with in the Despatch, and I think it has been conclusively shown that they had no grounds whatever for their uncalled for assumptions. All I can now say is that we acted according to the best of our ideas as to what was best. Looking back at the correspondence, perhaps some verbal or trifling changes might have been desirable, but beyond this, I am not aware that we could or should have acted otherwise than we did.

No. 55.

No. 178, dated Bombay Castle, 6th February 1877.

No. 92.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY to the SECRETARY TO THE GOVERNMENT OF MADRAS, Public Works Department.

I am directed to acknowledge the receipt of your letter No. 625, dated 31st January last, and accompaniments, and to forward, for the information of his Grace the Governor of Madras in Council, extracts from the reports of the Agent and General Traffic Manager, Great Indian Peninsula Railway Company, and copy of a letter No. 151, dated 2nd instant, addressed by the Bombay Government to Sir Richard Temple, together with the report of the Consulting Engineer for Railways which accompanied it.

Railway
grain traffic
arrange-
ments.
Nos. 29. 40.

It will be seen from these papers that the Great Indian Peninsula Railway Company represented that it would be impracticable to limit through booking at their receiving stations and those of the East Indian Railway in the manner suggested by his Grace the Governor of Madras, and that they stated that they would be obliged to adopt the plan which they actually have adopted of receiving and forwarding consignments in such a manner as to cause the least demurrage, working up to a block or nearly so, and then temporarily suspending the booking for Madras stations.

In the opinion of the Bombay Government the course adopted by the Great Indian Peninsula Railway Company is on the whole the best. The main object is to pour grain into the distressed districts of the Madras Presidency as rapidly as possible, and this object can best be promoted not by checking imports by the Great Indian Peninsula Railway, but by doing all that can be done to induce greater exertion on the part of the Madras Company to forward it from Raichore. The result has been that the Madras Railway Company have been able to increase the number of waggons forwarded from Raichore considerably over 90, the limit proposed, and count on being in a position to forward 150 by the 14th instant. The Great Indian Peninsula Railway Company, while urging the Madras Railway Company to remove waggons from Raichore more rapidly, have restricted the numbers sent into that station to what the Madras Company using their utmost exertion could take away daily; and the confidence of consignees of grain

to Madras is not likely to be more seriously affected by temporary complete stoppages of through booking than by daily restrictions, which, even if not absolutely impracticable, would be open to the objections mentioned by Mr. Le Mesurier. The inconvenience of a block of waggons on the Great Indian Peninsula Railway is undoubtedly very great, but it is not of much practical consequence whether waggons are delayed at receiving stations or at intermediate points between those stations and Raichore; under any system of booking and forwarding there must be delays and complaints so long as the Madras Railway cannot carry the traffic tendered for despatch from Raichore.

No. 56.

No. 179, dated Bombay Castle, 6th February 1877.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA:

Nos. 29. 40.
55. 37. 38.
39.

In continuation of my letter No. 152, dated 2nd February, I am directed to forward, for information, copy of correspondence with the Government of Madras on the same subject.

No. 57.

No. 115.

XXXIII.—MEMORANDUM by Mr. BERNARD, Secretary to Sir R. Temple, regarding the MUDANAPALLY SUBDIVISION of the CUDDAPAH DISTRICT.

Bangalore, 6th February 1877.

Mudana-
pally sub-
division
(Cuddapah).

In Sir Richard Temple's Minute, dated 20th January, regarding relief operations in the ceded districts, was expressed (paragraph 19) an opinion that relief expenditure in the taluks belonging to the Mudanapally subdivision of the Cuddapah district was probably excessive. In order to verify the facts, and to ascertain what suggestions could be made for restricting expenditure in that quarter, Sir Richard Temple visited Mudanapally on the 1st and 2nd February. He met there Mr. Gribble, the Sub-Collector, who has been for several years in charge of the subdivision; also Captain Whitlock, who for two years has been police officer at Mudanapally; and Mr. Traill, the Range Officer of the Public Works Department.

2. On his way to Mudanapally Sir Richard Temple passed through the North Arcot district, where relief operations had been restricted quite as far as was compatible with safety to the people.

3. The Mudanapally subdivision consists of four taluks, thus—

	Area in square miles.	Population.
Mudanapally	856	135,000
Kadire	918	141,000
Roychotee	1,031	128,000
Voilpád	769	146,000
Total	3,574	550,000

The chief characteristics of this tract were described in the memorandum on Cuddapah dated the 20th January. So far as the failure of harvest is concerned nothing need now be added to that memorandum, but it appears that the earliest autumn crop in these plateau taluks will not come into market until September [see paragraph 4 of previous memorandum]. Since that memorandum was written the total number of persons on

* NOTE.—Regarding the apparent friction of systems (not of local officers) in the Revenue and Public Works Departments, see paragraph 3 of the further memorandum on North Arcot, dated 2nd February 1877.

relief wages has fallen from the highest total 108,000 down to 90,000. Mr. Gribble, the Sub-Collector, attributes this decrease partly to the prevalence of cholera which dispersed certain relief gangs, and partly to the measures which he (Mr. Gribble) had been able, now that his *staff had been increased, to take towards eliminating from the relief gangs persons who were not in absolute need.

4. Sir Richard Temple visited certain completed relief works, namely roads, which appeared to have been fairly well executed. The cost, however, which had been only Rs. 1,000 per mile when the number of labourers was comparatively manageable, had risen to Rs. 1,800 per mile now that the number of relief labourers had increased so enor-

mously as to be unmanageable. Some expenditure had been incurred in consolidating the stone metal on these roads. This outlay no doubt improves and completes the work; but it costs a good deal, inasmuch as water is scarce and has on occasions to be carried on carts from a distance. It would be more economical to postpone such work till the rainy season, when water will be everywhere at hand, and then the completion of these works would be defrayed by the ordinary district funds, instead of being charged against "relief."

Mudana-
pally sub-
division.

5. Sir Richard Temple inspected several gangs of relief labourers in and about Mudanapally—in all some 3,000 or 4,000 persons. He found that the labourers looked to be in good condition; and it appeared that some proportion of them must have been quite able to support themselves, for a time at least, without Government aid. Hardly any of them appeared to be in a physically reduced condition. Some of them bore on their persons evidence in the shape of good clothes or ornaments that they had not yet been reduced to extremity. The Sub-Collector was of opinion that some of these people could with safety be dismissed from the works, and he anticipated that when the Madras Government orders should be received, he would be able to reduce and in future to keep down the number of relief labourers. The labourers received daily wages and no task-work was practically exacted; yet the number of head-coolies (gangmen) seemed too great.

6. It appeared to Sir Richard Temple that too many of the relief gangs were employed on roads and too few on tanks and petty irrigation works. The Mudanapally country, like Mysore, is studded with tanks; Mr. Gribble says there are 4,000 in his four taluks. Many of these have been breached in former years; many require repair and improvement. Some are gradually silting up, and the work is of a kind that in the adjoining districts of Mysore is done sometimes by the ryots themselves, and sometimes by the subordinate revenue officers. Yet in Mudanapally there seemed to be an opinion that no tank could be safely touched without a professional opinion; that it might do more harm than good to deepen a tank, and that any improvement of a tank would involve strengthening the dam (bund), enlarging the escape weir (calingula), and might jeopardise the safety of all the tanks in the chain to which the particular tank under repair might belong.

* NOTE.—Subsequent inquiry in the Mysore province showed that in the distressed tracts there tanks were the relief works selected by the local civil officers.

Sir Richard Temple did not accept these views as altogether correct.* At any rate he considered that full use should be made of all available engineering skill to employ the relief gangs on tanks, which are the very life of the country, and which directly repay judicious

expenditure by immediate increase in land revenue; whereas new roads (of which 174 miles have already been made in the Mudanapally subdivision) will involve a heavy future expenditure for up-keep.

7. Wages on relief work throughout the subdivision are paid in Government grain. Some Government grain had been expended, and about 20,000 bags (about 1,500 tons) are in store at or *en route* to depôts in the subdivision. Under recent orders it seems probable that Mudanapally will not receive further large allotments of Government grain; and Sir Richard Temple suggests that cash payments be at once resumed, and that the Government grain be kept in reserve and be not expended until either absolute necessity arises, or until favourable rain shall have induced the ryots to open their stocks.

8. The question of the grain stocks and grain supply was so important, that Sir Richard Temple had a long discussion with the local traders on the subject in the Sub-Collector's presence. The general account given by all was that foreign grain imported by railway, and foreign grain only, was sold in the bazaars. No complete statistics were available of the quantity of grain coming daily into the subdivision from the two railways on the north and south. But so far as the figures went, they seemed to show that a very large proportion of the population must still be living upon the whole grain stocks of the country. The Mudanapally and Voilpád taluks appear to get all they want from railway stations in the North Arcot district; the Roychotee taluk is comparatively near to the north-western line, but the Kadire taluk is somewhat inaccessible; its supplies have to come round by Roychotee. The traders declared that sufficient supplies for the weekly markets at outlying villages were carried from the chief towns by village dealers.

9. The price of grain has fallen considerably during the last five weeks. The traders attribute this comparative cheapness to the large private importations into Madras and the famine country generally. They stated their belief that private importations into Mudanapally had declined somewhat since Government grain began to come into the subdivision.

Mudana-
pally sub-
division.

10. The traders, all save one dissident only, stated that if Government ceased to bring in grain, they would try (and they thought they would be successful) to bring in enough foreign grain to supply the relief labourers as well as the ordinary demand. They asked assistance in two respects only : *first*, that the roads (or their consignments) should be so guarded as to prevent their carts being plundered ; and *secondly*, that supply bills on Madras should be granted them at par for cash paid into the Mudanapally treasury. The Sub-Collector stated that the guards could be arranged, and that it would be a direct convenience to Government that the traders should pay cash into his treasury in exchange for bills on Madras. If relief wages are paid in cash, a good deal of silver will be wanted at Mudanapally.

11. At the charitable relief houses in Mudanapally and at the taluk head-quarters cooked food is being distributed to people who are supposed to be in great need and unable to work. Some of the recipients seen by Sir Richard Temple at the Mudanapally relief house were not yet in extreme destitution. It appears that orders have been given to village officers that they are to relieve at the Government expense casual cases of severe distress, either among their own villagers or among temporary sojourners within their borders. But no special steps have been taken to enforce these orders and to see that they are obeyed. Sir Richard Temple considered that some special steps were required to secure that village officials, revenue inspectors, and tahsildars felt their responsibility in this matter. When the gangs of labourers come to be reduced and admission to the gangs is less a matter of course, the risk that disaster may overtake poor creatures in the villages becomes somewhat enhanced. It is cheaper and in every way better to glean up and relieve such cases by village inspection than to pay relief wages to tens of thousands who could support themselves without State aid. Even in districts where multitudes are admitted to relief works without check, occasional deaths from the consequences of hunger or exhaustion are said to occur ; and house-to-house inspection in very distressed tracts will obviate the risk of such disasters.

12. Mr. Gribble pointed out certain doubts he had as to the safety of a recurrence to cash payments. And Sir Richard Temple explained (1) that if risk were apprehended, the change should be made gradually first—at Mudanapally itself and other places near the railway where trade was active, and where competent officers would be on the spot to act in case of emergency ; the change could then be extended speedily to other relief gangs ; (2) Sir Richard Temple replied that prices might, especially in remote places, become somewhat dearer at first when grain payments ceased. But the very rise would work its own remedy, for supplies would be attracted to such places. Meanwhile the reserve of Government grain provides against disaster, and the sliding scale of wages (proportioned to the price of food) guards the labourer from the possibility of his ration being dangerously reduced.

13. Sir Richard Temple's general impressions were—

- (1.) That the numbers on relief works—about 19 per cent. of the whole population—were still too large, and that insufficient work was got out of the labourers :
- (2.) That persistent efforts should be made, with the help of all the engineering staff available in the subdivision, to employ more of the gangs on tanks and irrigation works and fewer on roads :
- (3.) That much care and activity should be immediately exercised to enforce on petty relief officers and village officials the necessity for systematic village inspection and relief :
- (4.) That when the numbers on charitable relief become larger, relief camps should be formed and indoor relief given :
- (5.) That relief wages should be paid in cash, the Government grain being kept for the present as a reserve.

No. 58.

Nos. 59. 66.

Telegram, dated 7th February 1877.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to REVENUE SECRETARY, Madras.

Land re-
venue remis-
sions.

*No. 45.

Your telegram of 2nd instant.* Government India merely recommended Sir Richard Temple's suggestion to your consideration, but will not interfere with discretion of Local Government in a question of this kind. Government of India thinks that Board of Revenue might be warned against too free remissions and authorised to hold balances in suspense in cases in which it appears likely that the landholder will, without undue pressure, be able to pay up next season.

No. 59.

Telegram, dated 7th February 1877.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to SECRETARY, Bombay

No. 66.

Your telegram of 3rd.* Government of India do not desire to limit the discretion of Local Government in matter of this kind, and will be satisfied if Collectors are again warned against too free remissions and authorised to hold balances in suspense in cases in which it appears likely that the ryot will, without undue pressure, be able to pay up next season.

Land revenue remissions.

*No. 49.

No. 60.

Telegram, dated 7th February 1877.

From SIR R. TEMPLE, Bangalore, to REVENUE ADDITIONAL SECRETARY, Calcutta.

No. 66.

Just starting from Bangalore to outlying distressed parts Bellary. Shall pass across worst tracts of Mysore. As we leave telegraph line for next five days, I send following in case of need for next mail. Over whole Madras Presidency famine is successfully combated, and starvation prevented. Physical condition of peasantry good. Relief works, great or small, everywhere open, charitable relief arrangements being well organised at all centres where people congregate. Organisation for village to village relief already existing and being now utilised. Some deaths partly or indirectly due to want unhappily occurred at outset in districts near Madras, and some few may still occur despite medical treatment. Government of Madras recent orders on my suggestions for economy will prevent excessive outlay. Numbers on relief works not increasing, but rather less than last month; probable increase hereafter, but will be restricted as much as possible. Numbers on charitable relief not yet large, but will increase. There is still some want in unity and concentration of control in relief operations. Private grain trade remarkably active and successful everywhere. Shipping and railways doing great work. Great Indian Peninsula working well and Madras Railway improving. If line to Arcot doubled I think railways can supply all needs. Plenty of country carts and excellent road communication; draught cattle not yet showing any signs of exhausting. Water often scarce, but absolute dearth nowhere. Humanity and zeal of all officials striving against famine praiseworthy. Send future messages, care Station-master, Tadputree, near Gooty.

Condition of the Madras Presidency.

No. 61.

MINUTE by His Excellency the VICEROY, dated 8th February 1877.

No. 65.

I have little to add to the foregoing Minutes* in the way of statement or opinion, but it is due to Sir Henry Norman and Sir Alexander Arbuthnot that I should take this occasion of recording my grateful appreciation of the conscientious, vigilant, and able manner in which during my short absence from the seat of Government they discharged the anxious and difficult task confided to them in reference to the present famine.

Minute by the Viceroy on the action of the Bombay Government.

*Nos. 41. 54.

At the time I left Simla the scarcity, which has since assumed such serious dimensions, was of a very limited character, nor were the Local Governments with whom we had been in correspondence about it any better able than ourselves to predict its probable duration or extent, these being dependent on the timeliness and abundance of the rainfall due at a later period. My presence was then urgently required on various parts of the frontier, both for the personal conclusion of some important negotiations and also for the investigation of various administrative questions which demanded an early decision founded on personal consultation with the local authorities. Such a decision I was adequately qualified to form. But I need hardly say that I neither had formed nor was competent to form any deeply seated opinion on the relative merits of the various principles which have been from time to time propounded or adopted for the management of a great Indian famine in all its phases, such a task never having come within the scope of my previous experience.

In these circumstances I did not feel called upon to postpone my inspection of the frontier, for which elaborate arrangements had been completed, and I consider that the only course properly open to me was the one I adopted, viz., to leave untrammelled to my colleagues in Council, whose experience on such subjects was greater than my own,

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the Viceroy
on the action
of the Bom-
bay Govern-
ment.

the conduct of all correspondence about relief operations and other matters connected with the scarcity, affording them, in the discharge of their anxious task, that unreserved support on which they were entitled to reckon.

In default of special experience, my own views were naturally and necessarily guided by reference, on the one hand, to the plain axioms of political economy, and on the other, to those obligations which are permanently incumbent on the responsible guardians of the public purse.

It was my opinion that we should not be justified in sanctioning either any premature interference with private trade, or the commencement, for purely relief purposes, of public works which the Imperial Government might find, after adequate consideration, that it could neither complete without an expenditure of money greatly in excess of its resources, nor suspend, if once commenced, without a considerable waste of money. My colleagues concurred in these conclusions, and were furthermore of opinion that at the stage of the scarcity with which we were then dealing, it was expedient to start small relief works near the homes of the people rather than large ones remote from the suffering localities.

The facts and arguments on which this opinion was based appeared to me sound and cogent, and I unreservedly acquiesced in the recommendation which, with my full authority, was addressed in this sense to the Governments of the two Southern Presidencies before I left Simla on the 16th of October.

The question subsequently raised in reference to the relative efficiency of relief works on a large scale, or a small one, at the earliest possible period of a famine already existing, or confidently expected, was not then under consideration. This is, no doubt, a question of great importance; and so far as I am personally concerned, had anything occurred to suggest it to my mind before I left Simla, I think that, whilst certainly sanctioning and fully approving the recommendation then addressed to the Local Governments in favour of minor works, I should probably have endeavoured so to qualify or guard the language of it as to leave the Local Governments no possible ground for at any time supposing themselves to be precluded, in deference to an established principle, from commencing relief operations on a large scale whenever such a course might appear to them called for by the circumstances with which they were dealing.

There was, however, no cause for the anticipatory discussion of such a question, more especially as the recommendation above referred to was unreservedly accepted by the Government of Bombay as well as that of Madras without the slightest reference to any condition by which it should in their opinion be qualified.

Copies of all the subsequent correspondence on famine matters were promptly and regularly forwarded to me by the President in Council, carefully perused and duly acknowledged not only with approval, but also with cordial recognition of the conscientious care with which it had been conducted.

Now, as regards that portion of this correspondence which was addressed to the Bombay Government, I must here observe that, ever since I assumed charge of the Supreme Government, it has been my earnest and constant endeavour to maintain, both personally and officially, the most frank and cordial relations with his Excellency the Governor of Bombay. Finding that the official intercourse between the two Governments was not altogether free from mutual irritation and mistrust, I have been at some pains to read with care, and occasionally to correct with my own hand, letters drafted on current business of a kind too trivial to engage the personal attention of the Viceroy, had it not been for the Viceroy's anxiety to prevent the inadvertent use of any expression which might appear to him likely to offend the susceptibilities of correspondents predisposed to take offence. But it is my sincere belief that the President in Council could not, consistently with that high sense of public duty which has characterised his long and eminent career, have sanctioned off-hand and in absolute ignorance of the extent and duration of the financial liabilities the Government of India would thereby incur, all the applications for the commencement of large relief works first addressed to him by the Government of Bombay in the latter end of October.

The figures accompanying these applications were, in my opinion, inadequate and even misleading, and I think, not only that the President in Council was fully justified in calling for further information respecting them, but also that it was his clear duty to do so. The question is not whether large works were preferable to small ones at the time when the above-mentioned applications from the Government of Bombay were received by the Government of India, but whether the Government of India ought or ought not to have sanctioned the immediate commencement of the works specified by the Government of Bombay without knowing whether the expenditure for which sanc-

tion was asked on behalf of those works represented the total estimated cost of them or only the amount of a provisional allotment for relief purposes. Again, when it had been ascertained that the proposed expenditure represented only the amount of an allotment for commencing the works in question, was it or was it not the duty of the Government of India to sanction this expenditure before it had ascertained whether it would be absolutely wasted in case the Government of India should find itself unable to prosecute without interruption the completion of the works thus commenced?

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the Viceroy
on the action
of the Bom-
bay Govern-
ment.

As illustrating the importance of the question thus stated, I may here mention that when application was first received for permission to commence the Dhond and Munmar Railroad, the preliminary survey of that line (a great Imperial work) was barely completed, and had not been subjected to any examination by the Public Works Department of the Imperial Government. I have now sanctioned the commencement of relief work on this projected line, not at all because I am satisfied that the Bombay Government is right in asserting that the earthworks on which it proposes to employ such labour will not be deteriorated if the completion of the work is suspended (as it probably will be suspended) for some years, but because I believe that the difficulties with which the Local Government is at present dealing are so great as to justify us in incurring such a risk rather than reject its urgent and renewed request.

The correspondence which ensued between the two Governments in consequence of the demand made and maintained by the President in Council, for further information respecting the large relief works he was urged to sanction last November, has doubtless occasioned some delay in the commencement of those works. I cannot judge whether the Bombay Government was unable or only unwilling to furnish the information asked for, nor whether, had that information been promptly furnished, the President in Council would still on principle have objected to the commencement of the works recommended. Nothing in the correspondence of which copies were forwarded to me led me to suppose that sanction of these works had been provisionally withheld on any other ground than the need of fuller information on certain financial points.

But, immediately after my arrival at Bombay, I became aware that this correspondence was regarded by the Government of that Presidency as irreconcilable with the discretion left to it by our telegram of the 16th of October, and acknowledged with satisfaction in its own telegram of the 24th of the same month, with regard to expenditure on relief works. I had also the advantage of meeting at Bombay Sir John Strachey, whose personal experience of previous famines in India had led him to form a very strong opinion adverse to the continuation of small local relief works, and in favour of commencing large ones at the earliest possible stage of any serious scarcity. The arguments in support of this opinion, which I need not recapitulate, appeared to me forcibly illustrated by all I learned of what was actually taking place in the affected districts at the time I visited Bombay. I therefore came to the conclusion that relief works upon a large scale were urgently needed; and that, whatever the cause to which it might be attributable, the delay in commencing them could not be safely prolonged.

I am of opinion that, when it became evident that the correspondence between the two Governments on this subject was not conducive to a prompt and satisfactory settlement of the points in dispute, it would have been well to close that correspondence, so far as it concerned matters of detail, by deputing some competent and conciliatory officer to proceed to Bombay for the purpose of settling all such matters in personal communication with the local Government. But I must at once acknowledge that this is an opinion formed after the fact; for, to say the truth, it was not until I had reached Bombay, on my way to Delhi, that I became fully conscious, either of the irritation which the correspondence of the preceding month had occasioned to the Government of that Presidency, or of the gravity of all the circumstances which determined my prompt decision that relief works, on a large scale, ought to be immediately opened.

Being also satisfied that the principles on which the Bombay Government was dealing with the difficulties of its situation were sound and judicious, I omitted no opportunity of encouraging its efforts by giving public and cordial expression to my approval of its proceedings and my confidence in its discretion.

Almost simultaneously with, or immediately after, the public utterances made by myself in this sense on behalf of the Government of India, the Government of Bombay received a letter from the President in Council referring to various matters of detail. The terms of this letter were in accordance with the principles previously laid down by the Government of India, and those principles were not (in my opinion at least) incompatible with the famine policy which the Bombay Government was then pursuing. But some portions of this letter were regarded by that Government as impediments to action urgently needed in the then existing condition of local affairs.

Minute by
the Viceroyn
on the action
of the Bom-
bay Govern-
ment.

Believing that the letter was not intended to have this effect, and being also satisfied by the information furnished me on the spot, that delayed action might have injurious results, I at once addressed a private letter to the President in Council, urgently requesting the immediate revocation of this letter; but my letter did not reach Delhi previous to my own arrival there. I then ascertained that a copy of the letter had been already forwarded to the Secretary of State; but, within a few days afterwards, my colleagues in Council agreed to recall that letter, and substitute for it one from which the paragraphs complained of by the local Government should be omitted. It was not possible to draft the substituted letter thus agreed upon, previous to the return of Sir Philip Wodehouse to Bombay; but on the eve of his Excellency's departure from Delhi, I informed him that the original letter was withdrawn, and that he would speedily receive another letter on the same subject, which was to be substituted for it, and from which the passages to which he had called my attention in the first document would be omitted. I took this occasion of expressing to his Excellency my hope that the arrangement thus explained would terminate a correspondence which could not be continued without detriment to the interests of the Empire, under circumstances of serious difficulty, imperatively demanding the loyal and energetic co-operation of all its administrators.

His Excellency gave me to understand that the arrangement in question was satisfactory to himself and his Government, and that the controversy it was intended to close would be considered by him as set at rest.

My surprise has, therefore, been great on reading, for the first time, in the local newspapers, the Resolution of the Bombay Government to which this and the foregoing minutes have reference.

No. 62.

Telegram, dated 8th February 1877.

Nos. 71. 92.

From PUBLIC WORKS SECRETARY, Bombay, to REVENUE ADDITIONAL SECRETARY, Calcutta.

Sholapur
distress.
Contradic-
tory reports.

You will see reports of deaths from starvation at Sholapur. Collector reports only one such death in Sholapur itself; none have been reported from districts. Full particulars called for.

No. 63.

No. 55, dated Nundydroog, 8th February 1877.

Nos. 64. 115.

From the SECRETARY TO SIR RICHARD TEMPLE to the SECRETARY TO THE GOVERNMENT OF BOMBAY, P. W. Department.

Village re-
lief.

By direction of Sir Richard Temple, I have the honour to forward copy of a minute* recorded by him concerning the need for fully employing and efficiently supervising the existing organisation for village relief in the interior of districts in the Madras Presidency. Sir Richard Temple believes that, with some trifling changes of detail, his suggestions will be found applicable to the more distressed parts of the Bombay districts affected by the recent failure of harvests.

*No. 20.

2. Sir Richard Temple would take this opportunity of suggesting that the instructions conveyed in paragraph 4 of the Bombay Government orders* might perhaps be construed by subordinate local officers to mean that persons capable of performing some labour who fail to come upon the relief works should be left without any State relief at all, however deplorable their condition. Practically the question, "Will you come on the works or not?" cannot be put to each individual sufferer. And absence from the relief works would be generally considered tantamount to a refusal to work. The orders in which the passage under notice occurs were forwarded to Sir Richard Temple by the courtesy of the Bombay Government, and therefore he trusts to be excused for offering a suggestion upon the matter.

3. Circumstanced as Indian villagers are, fenced about with caste customs and family habits, there will occasionally be cases of women and even of men who might be physically able to do some quantity of work, but who, from one cause or another, sometimes perhaps from what Europeans would term prejudice, will hold back from the kind of relief work Government offers until they are too weak to go to the works at all. When there is a competent existing village organisation, it will not be very costly to search out and relieve such cases. Often it will be found that men and women who from

the habits of a lifetime are really unable to do hard work on roads or tanks, are yet quite ready to weave, or to spin, to make baskets, or to do other labour, within their powers, if only it can be provided for them. Village relief
organisa-
tion.

4. If it should be held to be unjust to the public taxpayer to give State relief to persons who, though physically able, are unwilling to work upon the roads or to submit to any labour test at all, then it might be practicable to debit the cost of relieving such persons to the private subscriptions which have been and are being freely given.

5. With reference to the suggestions regarding village relief in the enclosed minute, it may perhaps be well to mention that the existence of an efficient village relief system enables relief officers to shut off from the works all persons who probably or presumably can support themselves. For even when mistake is made and the disappointed applicants for relief wages are really poor, there need be no risk of their dying of want at home. For the village officials will search out such cases, relieve them temporarily, and then send them before the relief officer. If there be no such system, then an officer in charge of relief works will very often from humane motives decide all doubtful cases in favour of applicants for relief, and the public treasury will thereby suffer.

No. 64.

XXIX.—MINUTE by SIR RICHARD TEMPLE, dated Nundydroog, 8th February 1877. Nos. 72. 115.

As the season advances in which distress gradually deepens in certain classes of the native community, there is one point which I would specially commend to the consideration of the Government of Madras, which is this. However searching, comprehensive, and far-reaching the relief measures may be, it may happen, probably it will happen, that individuals or particular families may yet be suffering in silence, may escape observation, and may compose themselves quietly for death without applying for relief or complaining to any one. When once a complete system of relief has been established, as happily it has been or is being established, throughout the Madras Presidency, it will be in some such way as that above described that deaths from starvation occur, if they occur at all. Such is clearly the result of our experience in 1874 in Behar, where certainly some few cases of this sad nature did occur. And in the districts of the Madras Presidency every now and then incidents come to light which make us fear that, despite all the praiseworthy precautions of the district authorities, some such cases may be occasionally occurring, as is well known some cases did occur at the outset of the distress.

2. For this there is but one remedy, which is as perfectly practicable as it is completely efficacious; and that is constant supervision of every highway and every village throughout the distressed districts, with a view to observing, picking up, and relieving every person who may be found to be threatened with starvation. It is to be assumed that such cases cannot possibly exist in any large numbers anywhere, by reason of the large and liberal measures of relief which have been adopted, and that they will be only scattered instances of misery, where persons, from social prejudices, or from infirmity, or from peculiar circumstances, or from fatalism, or other inexplicable reason, do not apply for relief. In Behar the necessary organisation for such supervision had to be summarily constructed for the occasion. But fortunately in the Madras Presidency it already exists. There is in every village at least one headman, generally there are two headmen and a village accountant,—the local names differ in various parts of the country, but the offices are the same. Every circle of villages or every section of the country is formed into a “taluka” or “taluk” under an official styled tahsildar, who has a deputy immediately under him; and in every “taluk” there are two or more “revenue inspectors,” whose ordinary duties cause them to be specially acquainted with the people in the villages within their respective circles. In most districts over every two or three “taluks” there is a superior officer, such as an Assistant Collector or a Deputy Collector. It is impossible to have an organisation more naturally fitted for the purpose than this. And the staff would be easily strengthened in any locality where additional strength might seem necessary by temporarily allowing a second deputy to the tahsildar or by augmenting the number of revenue inspectors. Nothing could be easier than to specially divide each taluk into two or more circles of relief, and probably this will have to be done in most districts; indeed in some districts it is being done already. Very shortly after entering the Madras Presidency I presented the Collector of Kurnool at his request with a sketch of this system as apparently applicable to his district, which memorandum was immediately laid before the Government of Madras. The same principle was also embodied in my proposals for the systematisation of relief submitted to the Government

Village relief
organisa-
tion.

of Madras on the 19th January. In every district which I have visited the result of our Behar experience in this respect has been explained by me to the district authorities, so that no person be permitted to die from preventible hunger; and I believe that they fully understand the need of that degree of vigilance in this matter, which does indeed form an essential part of the humane policy adopted by the Government of Madras.

3. According to this it has become or will become the duty of every village headman to watch for every instance of distress threatening danger to life, and to arrange for relief or to give food for a day or two until the order of the nearest relief official can be obtained, on the understanding that any slight expense thus incurred would be reimbursed. In some cases the district officer might place some small funds at the disposal of trustworthy village headmen for this purpose. The headmen will not find any difficulty in bringing these cases before a relief official, inasmuch as such official will always be close at hand under the organisation above described, and as relief camps are being established in all suitable localities, thus no financial abuse can arise. Nor is it possible that any cases can escape the care and watchfulness of the village headmen and the taluk officials, if they do their duty, as they doubtless will, under the supervision of the district authorities. If the plan be perfectly carried out, as it doubtless will be throughout the Madras Presidency, then the Government may be sure that, *Deo volente*, no person shall die of hunger.

4. Also on the highway the regular police can discharge the same functions; probably they do so already. In those lines of communication where such occurrences are most to be apprehended, the police patrols might be specially strengthened with this view.

5. Though I believe that the matter is now quite understood by the district officers, there can be no harm in recording this minute in case the Madras Government should see fit to issue any formal instructions to the local authorities on a matter which is so intimately bound up with the humane and charitable policy which they have pursued, and which so much concerns what is, in the words of the Government of India, "the paramount duty of saving human life."

No. 65.

No. 200.

No. 9 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 9th February 1877.

Nos. 41. 54.
61.

With reference to the concluding paragraph of our Despatch No. 8 of the 2nd instant, we beg leave to forward copies of minutes by Sir Alexander Arbuthnot, Sir Henry Norman, and his Excellency the Viceroy, and of the four documents referred to therein.

We have the honour to be, &c.

(Signed)

LYTTON.

H. W. NORMAN.

A. HOBHOUSE.

E. C. BAYLEY.

ALEX. J. ARBUTHNOT.

A. CLARKE.

J. STRACHEY.

No. 66.

No. 200.

No. 10 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the Most Honourable the MARQUIS OF SALISBURY, Secretary of State for India.

Calcutta, the 9th February 1877.

With our Despatch of the 2nd instant, No. 6, we forwarded to your Lordship various minutes and memoranda received from Sir Richard Temple principally relating to the condition of the districts of Cuddapah, North Arcot, Coimbatore, and Trichinopoly in the Presidency of Madras. We now enclose Sir Richard Temple's reports on the districts of Salem,* Madura,† and Tinnevely,‡ which continue the narrative of his pre-

Forwarding
and review-
ing Sir R.
Temple's
minutes.
*No. 24.

†Nos. 12. 16.

‡Nos. 15. 16.

liminary survey of the distressed districts in the two presidencies. The account of the district of Chingleput, which adjoins and bounds the town of Madras on the north, west, and south, has not yet reached us. The Nellore and Kistna districts have still to be visited.

Forwarding
and review-
ing Sir R.
Temple's
minutes.

2. It will be seen from these papers that the state of the districts now reported on, and the same remark applies to the district of Coimbatore, and still more to the district of Trichinopoly, is very much more favourable than that of the ceded districts and Kurnool. Although in all these districts there has been serious drought and very extensive failure of crops, and prices are consequently very high indeed, but little lower than those which obtain in Bellary, Cuddapah, and Kurnool, the number of persons admitted to the relief works was, at the time of Sir Richard Temple's visit, comparatively small. It is probable that in Madura and

Salem	-	-	23,000
Madura	-	-	5,531
Tinnevelly	-	-	2,500

Tinnevelly the numbers in need of relief would have been very much larger, had it not been for the facilities of emigration to the coffee districts of Ceylon, which annually attract a considerable number of the labouring classes of both districts. It is stated that every year tens of thousands of Tinnevelly labourers go to Ceylon to work on the coffee estates and other farms. The day Sir Richard Temple was at Tuticorin, he saw some hundreds of Ceylon coolies returning after their six months' working season. This year, doubtless in consequence of the dearth, the emigration from both districts has been greater than ever. In the Salem district there is no such outlet, and consequently the labourers on the relief works, although the supervision of the relief operations in this district is stated to be exceptionally good, and the population is more than a quarter of a million less than the population of Madura, were more than four times more numerous than those employed on the Madura works, not counting 8,000 people receiving

Salem	-	-	1,966,925
Madura	-	-	2,266,615

gratuitous relief.

3. A very satisfactory feature in all these districts is the great activity of private trade. They all are traversed from end to end by railways, and in all the districts roads are numerous and good, especially in Salem and Madura, and there are plenty of carts for the transport of grain. The Madura dealers are men of capital and enterprise, and they are already importing grain to the small ports on the coast, and bringing it up to Madura.

Activity of
private trade.

4. In regard to the prospects of these districts during the coming months everything depends on the spring rains. If the usual rains fall in April things will go well. If they fail, there will be serious distress and heavy relief expenditure for several months. There will also, in such an event, it is to be feared, be a considerable loss of cattle. As regards the water supply there is no serious cause for apprehension.

5. We stated in our Despatch of last week that the Madras Government had acceded substantially to all Sir Richard Temple's proposals for economy, and that orders would be issued at once.* Sir Richard Temple has since informed us* that the Madras Government have ordered various measures of economy in relief and such restrictions of expense as are compatible with the safety of the people, and that these orders are actually being carried out in the interior of the districts. Though there may yet be important discussions on details, Sir Richard Temple trusts that there is general accord in principle. He cordially acknowledges the support which he has received from the Madras Government and from all its officials, and bears his testimony to the zeal, devotion, and humanity with which the relief operations have been undertaken in that presidency. In his minutes and memoranda on Bellary, Cuddapah, and Kurnool, which have already been laid before your Lordship, and more particularly in his minute of the 19th January, he has discussed very fully the necessity of placing some restrictions on the enormous numbers resorting to the relief works in those districts and the mode in which this should be done. Similar suggestions were made to the Government of Bombay, which, however, had anticipated the most important of them, viz., the reduction in the rate of wages.

*No. 50.

6. With this Despatch we submit a minute, dated the 24th † ultimo, in which Sir Richard Temple has drawn the attention of the Bombay Government to the applicability of certain passages in our letter of instructions to the relief administration in the Bombay districts, including the question of closing many of the smaller relief works. At present

†No. 17.

* Since this was written we have received copies of the orders of the Madras Government dated the 31st January Nos. 329 and 330, enclosed in their Despatch to your Lordship, under date the 2nd instant. These orders are entirely in accordance with the policy laid down in our instructions to Sir Richard Temple, on the subjects to which they relate, viz., the restrictions on expenditure and non-interference with trade, and have our cordial concurrence.

Forwarding
and review-
ing Sir R.
Temple's
minutes.

*Nos. 11. 53.

†No. 34.

Grain traffic
arrange-
ments.

‡Nos. 18. 26.
27. 28.

Land re-
venue remis-
sions.

§Nos. 8. 23.
30. 45. 49.
58. 59.

Numbers
receiving
relief.

we are not aware whether anything has been done in either presidency in the direction of closing small works; but in connexion with this subject we submit a* correspondence which has passed with the Government of Bombay regarding the commencement of the earthworks of the Dhond and Manmar Railway and of the railway some time ago projected between Bellary and Karwar by way of Gudduck and Hooblee. We have authorised* the Bombay Government to commence the first of these works at once, if, in their opinion, it is urgently necessary in consequence of more extensive relief works being required than those actually in progress; observing, however, that work should, as far as practicable, be confined to those portions of the undertaking which can be carried out without committing the Government to immediate completion of the line when the present difficulties have ceased. Regarding the Karwar and Bellary Railway we have addressed the Madras Government and Sir Richard Temple, who will shortly again visit the Bellary district. We have reason to believe, although the point is not specially adverted to in any of the official papers before us, except in the memorandum regarding the Tinnevely district, that difficulties have been experienced, though of what nature we are not informed, in devising large works suitable for relief purposes in the Madras Presidency. The only relief works of any magnitude at present in operation appear to be the East Coast Canal and the Junction Canal. Sir Richard Temple has inspected the line of the proposed extension of the railway from Conjeveram to Chingleput, but is not in favour of its being taken up as a relief work.† We shall probably receive more detailed information on the general question in Sir Richard Temple's final report after the completion of his tour.

7. The question of improving the grain traffic on the Great Indian Peninsula and Madras Railways has been carefully investigated by Captain Bisset, R.E., under Sir R. Temple's orders. We enclose some correspondence on this subject.‡ The officials of both railways appear to be using every effort to meet the emergency. A suggestion made by Sir Richard Temple, that the line from Madras to Arconum should be doubled, is under consideration in our Public Works Department, and will, we hope, be disposed of in the course of a few days. Arrangements have been made for obtaining weekly returns of the grain traffic to the affected districts by rail as well as by sea.

8. Sir Richard Temple has visited Bangalore, and was about to inspect some of the distressed localities in Mysore. We have reason to apprehend that the distress in that province is severe. Regarding Hyderabad we submit a memorandum of the facts ascertained by Sir R. Temple on the occasion of his visit to Hyderabad, from which it appears that the distress in the Nizam's country is likely to be more limited and less serious than was at first apprehended. Sir Richard Temple considers the arrangements made to meet the distress creditable to the prudence and foresight of the Nizam's Government.

9. Among the enclosures of this Despatch will be found a correspondence on the subject of remissions of land revenue,§ to which reference was made in our Despatch of the 26th ultimo (paragraph 5). Sir Richard Temple had suggested that suspensions only should be allowed pending further consideration, and that remissions should be prohibited. Both the Local Governments having objected to the course suggested, we have intimated to them that the matter will be left to their discretion, but that the subordinate authorities should be warned against too free remissions, and authorised to hold balances in suspense in cases in which it appears likely that the landholders will, without undue pressure, be able to pay the revenue in arrear during the next season.

10. From the returns of persons employed on the relief works and fed gratuitously which reached us yesterday, it appears that in the former case there has been a diminution of 38,994, and in the latter 12,447. The aggregate number of persons employed on the works was 908,410 and of persons receiving gratuitous relief 60,402 against 947,404 and 72,849, the corresponding numbers for the previous week. The Neillore return, however, does not include the coolies employed on the East Coast, regarding whom it is stated that no return had been received.

11. Since our last Despatch was written we have received your Lordship's Despatch of the 12th January, No. 6. Our Despatches and telegrams during the last few weeks, and the weekly Despatches and returns which you now receive from the two Local Governments, will have placed you in possession of tolerably full information on most of the points adverted to in your Despatch. The detailed reports alluded to in the 24th paragraph are gradually coming in and are undergoing a careful scrutiny, but we are not yet in a position to lay before you a full *resumé* of their contents. In the meantime the clear and full memoranda which have been furnished by Sir Richard Temple regarding the districts visited by him will have enabled your Lordship to form a clear view of the leading facts of the situation, of its dangers and difficulties, and of the

measures which are being taken to meet them. The situation is, indeed, very grave. The extent of the distressed area in length is very great, beginning, as it does, from near the south bank of the Taptee river in Khandesh, and stretching down south, uninterruptedly almost to Cape Comorin; and in one part its breadth is considerable, extending from the eastern watershed of the Western Ghaut mountains to the East Coast. Including Bombay, the Nizam's dominions, Mysore and Madras, the population affected can hardly be less than thirty millions, possibly a good deal more. The calamity is aggravated by the prevalence of cholera in many of the distressed districts. If it were not for the railways, which now extend from the base of the Himalayas to the extreme south of the peninsula, and the great improvement which has taken place in the communications generally, the difficulty of transporting food in sufficient quantities over this vast area would have practically rendered it beyond the power of Government, however great their efforts and unrestricted their expenditure, to prevent a very heavy mortality in some, at all events, of the drought-stricken districts. As it is, the railways are carrying the surplus produce of the Punjab, of the North-western and Central Provinces, and of Bengal, where the harvests have been excellent, to the drought-stricken plains of Sholapore, Bellary, and Kurnool; and throughout the distressed districts, owing to the activity of private trade, the markets, as a general rule, are well supplied. There will, we fear, be a heavy loss of cattle in some districts. The apprehensions which were at one time felt as to a water famine are not now generally entertained.

Area of distressed.

Value of railways.

12. We cannot conclude this Despatch without expressing our sense of the invaluable assistance which Sir Richard Temple is rendering both to the Government of India and to the Local Governments in the performance of our anxious task.

We have the honour to be, &c.

(Signed) LYTTON.
H. W. NORMAN.
A. HOBHOUSE.
E. C. BAYLEY,
ALEX. J. ARBUTHNOT.
A. CLARKE.
J. STRACHEY.

No. 67.

No. 826, dated 9th February 1877.

Nos. 83. 181.

From the COLLECTOR OF BEERBHOOM to the DEPUTY CONSULTING ENGINEER, Government of India.

Referring to your demi-official of 29th ultimo, I have the honour to state that there are, exclusive of about 80,000 maunds of rice awaiting despatch at the different railway stations of this district, about 80,000 maunds in depôt ready for export. I do not anticipate any heavy export after the amount on hand has been cleared; the principal block is at the Bulpore railway station, where there are about 50,000 maunds accumulated, and despatch has been suspended for some days owing to want of carriage.

Grain export from Bengal.

2. Prices have been sensibly affected by the export having risen since 1st November last from 27 seers 5 chittacks, to 21 seers 12 chittacks the rupee.

No. 68.

XXXI.—MINUTE by SIR R. TEMPLE, dated 10th February 1877.

No. 115.

Since the instructions of the Government of India, conveyed in the Despatch No. 45, dated 16th January, were made public, the Madras Government has drawn the attention of its officers to the necessity of restricting expenditure on relief, so far as economy may be compatible with the paramount object of saving human life. And the Madras Government orders prescribe certain specific measures by which economy can be in some degree enforced. But there is another point in the Government of India's instructions to which the attention of all relief authorities might, if the Government of Madras saw fit, be usefully drawn.

Review of relief works for the distress in Madras Presidency.

2. Paragraphs 4, 5, and 7 of the Despatch above cited lay down certain general principles, by the light of which the scheme of relief works in this presidency might, perhaps, be re-considered. The following passage may first be quoted from paragraph 5 of the instructions, thus,—“as it is clear that the Government will have to undertake

Relief works
in the Ma-
dras Presi-
dency.

“ serious measures for the relief of scarcity, no time should be lost in giving the people
“ means of employment on large public works.”

3. Then from paragraph 7 the following passage may be quoted,—“when distress
“ becomes extreme, and a state of absolute famine has been reached, large public works
“ may become insufficient to afford relief to the numbers of people in need of it. At
“ such a time the Government may be driven to set up relief works near the homes of the
“ people on a scale inconsistent with careful supervision or certain test.” After passing
through the more distressed districts, it appears to me that petty relief works of this
nature were, at the outset, undertaken in many parts of the three districts of Bellary,
Kurnool, and Cuddapah, though many of them will ere this have been stopped, and the
labourers concentrated upon better devised works. The period has not, according to my
experience, arrived, when such measures ought to be largely adopted. Their introduction
may become necessary during the month of April, perhaps in some places from the middle
of March. Meanwhile, they ought, in my judgment, to be discontinued wherever this
may be possible.

4. Now, in Bellary two works on the largest scale have been proposed, namely, the
railway towards Dharwar and the western coast, and the high-level canal project from
the Tungabhadra river towards Bellary town. The railway project was negatived some
time ago; but the Government of India have now been pleased to ask my opinion on the
proposal to begin the earth-work of this line as a relief work. I hope to be at Bellary
next week, and to submit my opinion after conference with the officers who may be in
possession of the views of the Madras Government. The high-level Tungabhadra Canal
cannot, I fear, be recommended, because there are doubts whether the river can supply
water enough for this work, as well as for the Kurnool Canal and for the Krishna district
irrigation lower down. A proposal has, indeed, been made for constructing a large lake
in the Mysore hills, at a cost of 300,000L., and thereby maintaining the discharge of the
Tungabhadra; but I have not yet been able to satisfy myself that this reservoir scheme
is such as could be recommended to the Government of India. And, if undertaken, it
would involve much expenditure besides that required for relief. Besides these two, I
cannot discover any works of magnitude in the Bellary district. The only works which
can be suggested are certain lines of main roads now in hand; certain large tanks for
irrigation, about 150 in number, on each of which about 500 persons can properly be em-
ployed, and certain small anicuts (dams) on and channels from the Tungabhadra, which
irrigate the villages within half a mile of the river, but which were breached some years
ago and are now in disrepair.

5. In the level portions of the Kurnool district there are very few such irrigation tanks
to be excavated. But in the hilly taluks of the Cumbum Sub-Collectorate, possibly sites
for such tanks may be found. There are some main lines of road to be proceeded with.
The only large work is the Irrigation Company's Canal, upon the further excavation of
which large numbers might, perhaps, have been employed. But I understood in Madras,
after my visit to Kurnool, that the relations between the Kurnool Irrigation Company
and the Government are not such as to enable us to employ relief labour on this canal.

6. In the northern portion of the Cuddapah district there are some irrigation tanks and
some main lines of road on which relief labourers are employed. There are but two
works of magnitude, one the embankment to protect the railway from the Pennair river;
and the other a continuation of the Irrigation Company's canal. The former may, perhaps,
employ 10,000 to 12,000 persons for three months; while the latter must, for the reason
mentioned in the next foregoing paragraph, be held to be undesirable. In the southern
or hilly portion of the Cuddapah district, relief labourers (to the number of about
100,000 a day) have been employed mainly on road works. And already 170 miles of
new road have been constructed, which is, perhaps, the utmost length which the local
funds can hope to maintain. There are, however, very many irrigation tanks (some of
which were breached in the rainy seasons of 1872 and 1874), the construction and repair
of which might be prosecuted with much advantage to the people and to the Government
revenue. Some of these tanks are great works, on which three to five thousand people
could be employed for five or six weeks. In the memorandum written after my recent
visit to Madanapally, the tank question is discussed. Inquiries in the Mysore tank
country have confirmed my opinion that tank works can be usefully undertaken in
Madanapally. And I suggest that the civil and engineering officers be instructed to
take up this important subject in concert, and to arrange a plan for employing large
gangs on one series of tank works after another. A gang of 4,000 persons under a Public
Works Department subordinate could carry out a considerable tank project by piece work
in a few weeks, and could then be moved on to another similar work.

7. In the North Arcot district no great works have been proposed as yet. But a great deal of very useful work has to be done towards repairing tanks recently breached, and towards improving other tanks and their channels. The officers of the Public Works Department have several of these works ready in the Chundragiri and other taluks, if only the civil officers could arrange for transferring relief gangs to the engineering officers for employment on such works.

Relief works
in the Ma-
dras Presi-
dency.

8. In no other district of this presidency save Nellore are the numbers of relief labourers as yet excessive. In that district, which I have yet to visit, a large and important canal is being excavated; and the Madras Government is, I understand, directing to this great work all the labourers that can be brought thither.

9. For the Chingleput district one considerable work, namely, the earth-work of a railway from Chingleput to Conjeveram, was proposed. After inquiring into the facts and inspecting the site of the proposed line, I was unable to recommend its prosecution as a relief work. The Government of Madras has, however, approved a short canal near Madras itself, the excavation of which will furnish employment to large numbers for a considerable time.

10. If hereafter the number of relief labourers should become large in any of the southern or coast districts, I would suggest for general adoption the plan recommended for Madanapally, whereby large gangs of able-bodied relief labourers should be employed at piece-work rates under Public Works Department officers on one considerable irrigation work (tank, or channel, or anicut as it may be) after another, the gang being shifted from work to work.

11. As a complement to the scheme of employment which I have indicated, it will be necessary for civil officers to establish light labour gangs, on minimum daily wages, whereon elderly or infirm persons, or people draughted from relief camps, may be subjected to some kind of labour test. It will only impede the work of Public Works Department officers, disorganise efficient gangs, and make real piece-work rates impossible, if infirm or weak persons, unable to do a good day's work, are draughted into labour gangs which are to do real good work under skilled direction and efficient supervision.

12. It may, perhaps, be well to add that even though a gang may be doing really good work, and at a reasonable price, still vigilance should not be relaxed so as to admit to relief works persons who are not really in need of State charity. Relief wages at a time like this can, under pressing financial exigencies, be given to the absolutely needy only. And it is quite clear that in this part of India very many men and many women, who are not in absolute need, are quite ready, at a period of dear prices, to do hard work at piece-work rates merely to maintain their standard of comfort, or to earn a little money over and above what is required for their mere subsistence.

No. 69.

No. 508, dated Fort St. George, 10th February 1877.

Nos. 91, 221

From the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS to the CHIEF COMMISSIONER OF MYSORE.

I am directed by his Grace the Governor in Council to bring to your notice the fact that large numbers of people are flocking from the Mysore territory to the famine relief works and feeding houses in the Bellary and Cuddapah districts, and to the Wynad in Malabar, in the hope of securing the means of subsistence in this season of distress.

2. So far as Bellary and Cuddapah are concerned efforts have, the Government believe, been made to eliminate these people from the relief works and feeding houses, but without success, and this Government are opposed to effort in this direction.

3. In Wynad the Government have reason to fear that, so far from the hoped-for refuge from distress being reached, the demand for labour will be less than usual while the slack time is at hand on the estates, and the ordinary unhealthiness of this tract of country is likely to be aggravated by the circumstances of the year.

4. His Grace the Governor in Council cannot but recognise the serious risk involved in sending away to Mysore territory large numbers of distressed folk who have wandered thence in search of relief, and has accordingly telegraphed instructions to the Collectors that all these people shall be admitted on precisely the same terms as the inhabitants of the districts to which they may repair, and that the necessary extension of work and relief must be unhesitatingly provided, but at the same time he considers that the resulting charge should properly be borne by Mysore, and the Collectors have been accordingly instructed to maintain as correct a register of the number of Mysore people relieved as may be possible.

No. 88.
Difficulties
arising from
influx of
distressed
people from
Mysore.

Difficulties
arising from
influx of
distressed
people from
Mysore.

5. I am directed to request that you will depute a special officer to arrange with the Collectors of Bellary, Cuddapah, and Malabar for the return of these people to their own country as soon as may be, and at the same time to request that you will take steps to reimburse this Government for the expenditure incurred on their account so long as they remain in this presidency.

6. As the rates of wages on relief works in Mysore are understood to be the same as in this presidency, the charge to Mysore will be much the same in either case.

No. 70.

No. 115. XXXIV.—MEMORANDUM by MR. BERNARD, Secretary to Sir R. Temple, respecting the PENNEKONDA DIVISION of the BELLARY DISTRICT, with NOTES respecting RELIEF OPERATIONS in ANANTIPUR.

Anantipore, 11th February 1877.

Pennakonda
division
(Bellary).

Having passed from Bangalore through some of the most distressed portions of the Mysore country, Sir Richard Temple reached Pennekonda on the 9th February, passing across the Hindupore taluk. He met there Mr. Ross, the Sub-Collector, and Dr. Williams, recently sent from Bellary to combat the cholera which appeared in this division.

2. The Pennekonda division consists of three taluks, all of which are on the Mysore plateau, and partake more of the physical characteristics of Mysore than of Bellary. The area and population of the three taluks are as follows:—

	Area.		Population.
Pennekonda	654 square miles	-	80,000
Madaksira -	439 „ „	-	80,000
Hindupore -	481 „ „	-	88,000

The failure of rain last season and the loss of crops has been extreme over the whole of Madaksira, over the greater part of Pennekonda, and over a part of Hindupore. The “dry” crop was lost entirely, and the “wet” crop yielded about three annas all round; so that the total yield of the division is less than a two-anna crop. There is some ragi and a small area of cholum (jowari) now in the ground; the latter is grown in the beds of dry tanks. The yield of this standing crop is estimated by the divisional officer, Mr. Ross, to be equal to one month's food-supply for three taluks. The Pennekonda traders estimated that the yield would be equal to two months' supply.

3. The grain markets are now well supplied with foreign grain, ragi, cholum, and rice, which comes by cart from the Bangalore railway station to the chief marts of Hindupore, Pennekonda, and Madaksira. Pennekonda is further from Bangalore than from Gooty on the north-west line—88 miles as against 79. But carts are cheaper and more abundant at Bangalore than at Gooty. Part of Madaksira, however, draws its supplies from Bellary. The village dealers carry from the towns ample supplies for the village weekly markets. The traders, whom Sir Richard Temple met in presence of the divisional officer, were quite confident that trade would fully supply all local needs, both in towns and villages, so long as the Bangalore market was well supplied. The cessation of grain payments to and the requirements of relief labourers, would in no wise exhaust the markets.

4. The price of ragi and cholum ranges at present from $8\frac{1}{4}$ seers in Pennekonda to $9\frac{1}{2}$ in Hindupore. At the beginning of January prices were much dearer, $6\frac{3}{4}$ seers in Pennekonda and $7\frac{1}{2}$ in Hindupore. In the month of November, before the great importation from Madras coast had set in, the supplies in the smaller markets partially failed for two or three weeks together.

5. Mr. Ross has had a good deal of Government grain in his taluks; at present he has in store about 1,400 tons balance of local purchases, of which 500 tons were received from Major Hicks, the Government Grain Agent. He had expected a further monthly consignment of 1,000 tons a month from Major Hicks. Wages had until lately been paid in grain; now cash wages are paid, and the Government grain in store is all kept as a reserve.

6. The Madras Government orders for reducing relief works expenditure, dated 31st January, have not yet (10th February) reached Mr. Ross. He had, however, begun to weed out his labourers, and to turn off persons who could manage for themselves from the time of the publication of the Government of India orders (16th January). Cholera has dispersed some few gangs round Pennekonda; and further, some 30,000 relief labourers in the Hindupore taluk struck work, and have kept off the works for the

last two or three weeks, because they did not like task-work which had then been introduced. From all these causes the number on relief works has fallen from 90,000 to 30,000 persons. Several hundreds of these labourers, who voluntarily kept off the works, presented themselves to Sir Richard Temple, clamouring for a return to daily wages. He was glad to see that the people, men and women, were in good case, notwithstanding their absence from the works during the last two or three weeks.

7. Sir Richard Temple inspected four small gangs of relief labourers in Pennekonda town, and the appearance of the people was fairly good. The large gangs which had been at work near Pennekonda had recently been dispersed by a violent epidemic of cholera, which is now happily abating. On a road near Gootoor, 8 miles from Pennekonda, there had been at work some 1,500 labourers. On this gang the work of weeding out those who could support themselves had been carried out by the relief Inspector, who had reported that the gang dwindled to almost nothing. Mr. Ross was going to inspect the people out of this gang who still offered themselves for employment at task-work rates. And Sir Richard Temple was able to see about 400 of these people. Among these were certainly some cases of men and women who needed either relief wages or gratuitous relief, and these cases are being cared for.

8. Gratuitous relief used to be distributed at some 20 places in the division. But Mr. Ross found so much peculation at outlying relief houses, that he has arranged for closing all relief houses but five for the present. Each of these five will be under the supervision of a responsible relief officer, and will for the present be managed as a relief camp on the indoor system. Poor creatures at the outlying relief houses who still require State assistance are being taken into the central relief camps. Hereafter, when matters become worse, it may be necessary to establish one relief house in every Inspector's circle throughout the most distressed part of the division.

9. With reference to the fact (see paragraph 20 of the Bellary memorandum, dated 19th January) that some 30,000 people were receiving gratuitous relief in the three Pennekonda taluks at the beginning of January, Mr. Ross explains that some thousands of the names on the charitable relief returns were fictitious, and that peculation of this kind has since been checked and punished. A good many of the children belonging to relief labourers were at one time in receipt of charitable relief, and they have now been sent back to their parents. There are now 8,100 persons receiving charitable relief in the three taluks, and they will be gathered into relief camps. Sir Richard Temple saw about 150 persons in the chutrum (serai), which is used as a relief camp at Pennekonda, and he found all the inmates to be suitable recipients of State charity.

10. The great decrease which has recently taken place in relief expenditure in the three taluks of Pennekonda may be thus seen :—

	On first week of January.	During first half of February.
Total number of relief labourers - - -	88,000	30,000
Total number of persons on gratuitous relief lists - -	33,000	8,100

The physical condition of the Hindupore people who left the works three weeks ago warrants a belief that the relief now given is for the most part sufficient to arrest famine. Mr. Ross is of opinion that now, as was the case before the reduction in the number of labourers, occasional cases occur of wayfarers or other people being reduced to severe straits, and of people dying indirectly from hunger. He cited the case of a widow with two children, who came into Pennekonda a few days ago; they were all very much reduced by hunger; the mother and one child were seized with cholera and died; the other child is now in the poor-house.

11. Sir Richard Temple impressed on Mr. Ross the view that systematic village relief ought to be organised through the village officials; and Mr. Ross read the minute on this subject which Sir Richard Temple has recently laid before the Madras Government. Without such systematic relief, deaths must occasionally occur in remote villages among the old and infirm, or among children. And occasional disasters of this kind cannot be adverted by admitting to State charity (whether on works or in relief houses) tens of thousands of men and women who, in reality, could subsist without State aid. Systematic village relief can make starvation deaths almost impossible; and it is much more economical to the public treasury than insufficiently controlled relief works open to all comers.

12. Sir Richard Temple's general impression was—

- (1.) That the distress in the Pennekonda taluks is not yet quite so severe or so general as had been feared.
- (2.) That the food requirements of the tract can and will be met by private trade so long as the railway can deliver full supplies at Bangalore.

Pennakonda
division.
(Bellary).

- (3.) That Mr. Ross has during the last few weeks done much to secure economy.
- (4.) That Mr. Ross should at once organise his village relief system and supervise its working.
- (5.) That he should press forward the completion of his relief camps (in chutrooms or other existing buildings where possible).
- (6.) That he should himself, or through responsible officers, test the work of relief inspectors who may be empowered to weed out from the labour gangs people who ought to support themselves.

No. 71.

Nos. 78. 92.

Telegram, dated 12th February 1877.

From PUBLIC WORKS DEPARTMENT, Bombay, to the ADDITIONAL SECRETARY, Revenue Department, Calcutta.

Mode of
dealing with
refusal to
accept terms
of relief.

Bodies of people, especially in Sholapore, are persistently refusing to accept terms of relief as defined in Resolution 103 of 19th ultimo. Government believe it would be very mischievous to yield to what is evidently the result of combination, although refusal to yield may very probably lead to the deaths of some of the most weakly of those who have joined the movement and are acting under the influence of those who are stronger. Immediate communication of the wishes of the Government of India by telegram is solicited. Answer goes to day to your letter of the 2nd instant which approves of our rule not to relieve persons holding out through obstinacy under belief that they will not die, a belief which is not shared by this Government.

No. 72.

No. 115.

No. 52, dated Nundydroog, 8th February 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

Forwarding
Nos. 63. 64.
regarding
village relief.

By direction of Sir Richard Temple, I have the honour to forward copy of a minute recorded by him regarding the need for efficiently organising and supervising village relief in Madras. With this minute is also forwarded copy of a letter under cover of which this minute was communicated to the Government of Bombay, together with certain observations upon the terms of an order recently issued by the Government of Bombay.

Postscript, dated Bellary, 12th February.

The minute and covering letter were written, as the dates show, at Nundydroog in the heart of the Mysore country. Since then Sir Richard Temple has again come upon the railway line, and has received his Despatches, from which he is glad to find that the Government of India share his views on the subject of the present communication to the Government of Bombay.

No. 73.

Nos. 98. 115.

Telegram, dated Bellary, 12th February 1877.

From SIR RICHARD TEMPLE, Madras, to Mr. T. C. HOPE.

The pro-
posed Kar-
war-Bellary
line.

In reference to telegram of the 6th, regarding the commencement of the proposed railway from Bellary to Karwar, I have discussed the question at Bellary with his Grace the governor of Madras, when there were present the Collector of Bellary, Mr. Master, Colonels Mullins and Shaw, Sheward from Madras, and Colonel Hancock from Bombay. I am adverse to undertaking at present the Karwar and Bellary line generally, in consideration of pressing financial exigencies and claims of other lines. But famine relief labour of Bellary, Dharwar, Kaládgi districts may be most usefully employed in forming earthwork between Bellary, Hubli, and Dharwar, which may eventually be useful when circumstances shall permit such railway to be constructed. No large works being available for relief in the neighbourhood, I suggest that Madras and Bombay Governments be authorised to employ the labour in making the earthwork, taking up the necessary land for the purpose, such land being charged to local Governments; and it

being understood that this permission in no way pledges Imperial Government to ultimate construction of railway. I am authorised to say that the Government of Madras will concur in this view, and I think that the Bombay Government will concur also.

No. 74.

MEMORANDUM by MESSRS. HARVEY and SABAPUTHY on the SUBJECT of the EXTENSION of RAILWAY COMMUNICATION from BELLARY; dated Bellary, 12th February 1877. Nos. 75. 115.

They consider that a railway from Bellary to some central point in the Dharwar best agricultural district would prove remunerative to Government and a benefit to the country, but that a through railway to Karwar is unnecessary for the following reasons:—

The extension of railway communication from Bellary.

1st. The Dharwar crop is ginned in the south-west monsoon when shipments can be readily and promptly made from Madras, but are next to impracticable on the Malabar coast; the rains during that season are trifling in Madras and excessive in Karwar.

2nd. Financial and shipping facilities are present in Madras, the growth of a couple of centuries, but entirely absent in Karwar; the extent to which such facilities assist trade was explained personally by Mr. Harvey to Mr. Bernard.

3rd. Steamers from Calcutta to Europe touch at Madras for part cargo and carry it to Europe cheaper than special steamers sent to Karwar ever can do, or at least till Karwar is made a place as important as Madras.

4th. The best proof of the direction of trade is its present course, and Dharwar cotton comes *via* Bellary now in the rainy season, from Hoongoonda, Noolgoond, &c. &c.

5th. The capital expenditure on the Madras Railway would be rendered more productive than at present by reason of the increased traffic from Dharwar, and that railway is capable of carrying to Madras double its present normal traffic.

6th. The towns *en route* Bellary to Gudduck are of more importance than those from Gudduck to Karwar, and the cart trade at present carried on is enormous "throughout the year." From Karwar it is only practicable in the dry monsoon.

7th. The whole deduction Harvey and Sabapathy make from above stated facts is that a railway from Bellary to Gudduck would not only develop the resources of the country, but help to reduce the Government guarantee on the Madras Railway, which is at present the worst paying, they believe, in India.

8th. Shipping charges in Madras are less than in Bombay or Karwar, as per original actual memorandum of those charges incurred by Harvey and Sabapathy, which memorandum was sent to Mr. Bernard.

No. 75.

NOTE by MR. BERNARD and CAPT. BISSET, on the BELLARY COTTON TRADE as affecting the KARWAR RAILWAY PROJECT. Nos. 76. 115.

Messrs. Harvey and Sabapathy, of Bellary, have been good enough to favour us with approximate statistics of the cotton traffic from Bellary and Adoni, and with a memorandum of their views on the direction of the cotton trade from Bellary and from Dharwar, both at present and in the event of the construction of the Karwar Railway. It appears from these statistics that the annual export of cotton from Bellary by rail amounts to from 7,000 to 8,000 tons, and that nearly a similar amount is exported from Adoni. Of the exports from Bellary 2,000 to 3,000 tons are believed to come from the Dharwar cotton fields. Of the total, say 15,000 tons, exported from the two stations of Bellary and Adoni a portion is occasionally sent to Bombay, but seven-eighths of the whole takes shipment at Madras, where it appears that the shipping charges are no higher than at Bombay, and whence freights to Europe are now much lower than before the opening of the Suez Canal.

Karwar Railway project affected by cotton trade.

2. The observations on the present course of the cotton trade in paragraph 4 of Messrs. Harvey's and Sabapathy's memorandum are understood to refer to the rainy season only. The Dharwar cotton crop is believed to be moderately estimated at 30,000 tons per annum, and if the figures above quoted are approximately correct, the bulk of it must evidently still follow one of the western routes to the sea-board.

3. It is impossible to say with any degree of certainty in which direction the cotton produced along the line of railway will be carried, but there can be no doubt of the present extent of the cultivation, and very little doubt that the cotton for export by sea will take the rail in one direction or the other.

4. The rates for cotton on the Madras Railway are low, but even at these low rates a saving of $\frac{1}{4}$ th of a penny per lb. or $1\frac{1}{2}$ per cent. on the value of the cotton in the Liver-

Table of distances.

		Miles.
Dharwar or Hooblee	- To Bombay (<i>via</i> Bellary)	677
	„ Madras (<i>via</i> Bellary)	431
	„ Carwar	110
Bellary	- „ Bombay	550
	„ Madras	305
	„ Carwar	236
Adoni	- „ Bombay	485
	„ Madras	307
	„ Carwar	302

pool market. Looking at the geographical portion as shown in the marginal table of distances, it appears probable that so much of the Dharwar, Bellary, and Adoni cotton crop as can be prepared for market before the burst of the south-west monsoon (20th May) will be attracted to Carwar; and that after the burst of the monsoon on the western coast, the large portion of Dharwar crop which now remains in the country

till the close of the monsoon will take rail to Madras.

5. From an Imperial point of view, any unproved receipts to the Madras Railway would, so long as the guaranteed interest is not earned, be clear gain to the treasury.

6. It may be well to note that arguments such as are advanced by Messrs. Harvey and Sabapathy were anticipated by the Government of Bombay, whose Secretary (on the 5th February 1873) wrote, “extending the line to Bellary will meet the objections urged against the Karwar Railway on the ground of the uncertainty of communication by that route during the monsoon, will to a certain extent satisfy all parties concerned in the trade of the Southern Mahratta Country, or will ensure a regular traffic to the line throughout the year.”

No. 76.

No. 115.

MEMORANDUM by MR. BERNARD and CAPT. W. S. S. BISSET, R.E., regarding the BELLARY KARWAR and RAILWAY SCHEME as a RELIEF WORK.

The line is 236 miles long and is in the following main sections :—

		Miles.	
Madras, Bellary District	{ Bellary to Tungabhadra	42	{ Not yet actually located; could be done in a month.
	- { River	-	-
Nizam's country	-	27	Located.
Bombay	- { From border to Gudduk	22	Located.
Dharwar	- { Gudduk to Hubli	35	Located.
	- { Hubli to Kinvatee	29	Located.
Karwar	- { Kinvatee to Karwar	81	Located; ghât section requires some preparatory work in jungle.
Total	-	236	

2. The line will pass through the cotton-growing tracts of the following districts :—
Bellary, with a population of 151 to a square mile.

Dharwar „ „ 216 „
North Canara „ „ „

It will also serve a great part of the Belgaum district and some of the southern talooks of Kaladgi. Its cost will vary on the different sections, the ghât section being more expensive. The average cost will be about 7,000*l.* a mile, or Rs. 16,10,000 for the whole line. This includes 10,000*l.* on account of a pier and other loading and landing appliances in Karwar harbour.

3. The portion of the total cost which could be spent on relief labour will depend upon whether it is found possible to move large gangs from the famine districts of Dharwar and Bellary to the heavy works on the ghâts and in other parts of the Canara district. The work which might be done by unskilled labour is then—

		Rs.
From the Canara border to Karwar,	{ earthwork, costing at ordinary rates	8,20,000
81 miles	- { ballast collection	81,000
From the Karwar border to Bellary,	{ earthwork	5,50,000
155 miles	- { ballast collection	1,55,000
Total	-	16,06,000

But a proportion of the relief labourers in Bellary and in Dharwar are of the Wuddah tribe, whose ordinary profession is working in stone; and considerable gangs of stone-workers could be formed in the ceded districts and in Dharwar. There is a large

quantity of stone-work to be done at the Tungabhadra Bridge (42nd mile), which Colonel Hancock would build from the excellent stone found on the spot; also there are heavy cuttings in rock, laterite, and gravel (moorum), thus:—

Bellary and
Karwar
Railway
scheme.

		Costing at Ordinary Rates.
		Rs.
Tungabhadra Bridge, 42nd mile	} preparation of material	- 42,000
from Bellary - - -		
Ghât section from the 168th to 193rd mile - - -	} rock and laterite cutting	- 2,37,000
Other cuttings on length from the 193rd to 236th mile - -		
	} rock cutting - - -	- 83,000
Total - - -		- 3,62,000

4. Now it will not be possible to do in a single season of (say) three months all the earthwork and stonework shown in the foregoing paragraph. On lengths where the work is heaviest, a certain number of men only can work at the same time, and so we could hardly reckon on more than five lakhs of the earthwork on the Canara length being done by relief labour this season, even if it were possible to organise and transport relief gangs from the famine country to the ghâts. On the other lengths where there is only a moderate amount of earthwork, the whole of that work could certainly be done by relief labour in three months. Similarly with the heavy stone cuttings on the ghât length; probably not more than one-fifth of the rock-cutting in this section could be done this season. Thus the cost of the work which might, under the most favourable arrangements, be done by relief labour this season at ordinary rates, may be stated at—

	Section from Bellary to the Canara frontier.	Section from Canara frontier to Karwar.	Total.
	Rs.	Rs.	Rs.
Earthwork - - - - -	5,50,000	5,00,000	10,50,000
Ballast collection - - - - -	1,55,000	81,000	2,36,000
Stone-working and rock-cutting - - - - -	50,000	1,30,000	1,80,000
Total - - - - -	7,55,000	7,11,000	14,66,000

This sum (146,000L.) is the cost of the work at the estimated rates in ordinary years. But the rate taken in the railway estimates, 4 and 5 annas per cubic yard, is considerably higher than the ordinary rates of the ceded districts. And so, although relief labour is generally expensive labour, still, in view of the high rates taken in the estimates, it may be sufficient to reckon that the 146,000L. of ordinary work, if done by relief labourers, will cost 190,000L. And this is the maximum sum which the sanctioning of this railway could be expected to divest from comparatively unremunerative undertaking to an important Imperial work.

5. It is, however, very doubtful whether, at this season of the year, it would be possible to organise in the famine country of Bellary and Eastern Dharwar sufficiently large relief gangs and to transport them to Canara in time to make any very serious impression on the heavy cuttings of the ghât section.

6. It remains to consider shortly the question whether the proposed railway is one that should, on financial considerations, be sanctioned at all. The Committee who inquired very carefully into the financial prospects of the line in the year 1873 reported that the existing traffic of the country would enable the proposed line from Gadak to Karwar (*i.e.*, from the 91st to the 236th mile of the line now under consideration) to pay nearly 4 per cent. on the cost of the line. And this estimate was accepted by the Governments of India and Bombay.

7. Regarding the traffic on the Bellary length no detailed estimate has yet been offered. But Colonel Hancock, in paragraph 5 of his note dated 23rd January 1877, estimates the gross traffic earnings of the whole section above the ghât at Rs. 6,000 per mile per annum. Perhaps it will be safer to take Rs. 5,500

* NOTE.—See annexure regarding the estimated existing cotton traffic. as an average return which, with an assured traffic * in cotton either westwards or eastwards, seems to be a moderate estimate. If these estimated earnings on the Bellary to Gudduk section be added to the estimated earnings on the Gudduk to Carwar length, as already accepted

Bellary and
Karwar
Railway
scheme.

by the Government of India, then the total earnings of the whole line (236 miles) will amount to 15 lakhs of rupees (150,000*l.*).

* NOTE.—See paragraph 3 of the Secretary of State's Despatch of the 6th November 1873. It will not be safe to put the working expenses at less than 55* per cent.; and this would leave 675,000*l.* as the net earnings, equal to 4 per cent. on a capital of 1,687,000*l.*, which is somewhat above the estimated cost of the whole line.

8. Her Majesty's Secretary of State in his Despatch of the 6th November 1873, declined to sanction the line, on the ground that he doubted the financial success of the undertaking. The Despatch remarks that two-fifths of the whole expected traffic is cotton; that there is much doubt whether Indian cotton can hold its own in European markets, now that the American yield is steadily increasing; and that, therefore, there is considerable risk that the railway may not secure the heavy cotton traffic expected; and that it would consequently fail to pay the interest on the capital invested in it. On this point the Committee of 1873 expressed an opinion that the out-turn of cotton from the districts served by the Dharwar and Canara sections of the railway might be safely taken at 30,000 tons, of which two-thirds would take rail to the Karwar port. It may be unnecessary now to discuss the figures of acreage and out-turn on which the Committee based their estimate, though it might be shown that these figures are moderate. But from a review of the general figures of cotton export from Bombay since the American war, we find that the total export to Europe has, on the whole, risen, thus:—

Cotton Exports from Bombay Port in Season.		Cwts.
For these figures we are indebted to the courtesy of Mr. Hamilton Maxwell, of the firm of Nicol and Company, Bombay, who was kind enough to communicate them by telegraph.	1872	3,356,000
	1873	3,454,000
	1874	4,462,000
	1875	4,536,000
	1876, a year of short yield	3,675,000

And Sir William Muir in his financial statement of March 1876 said, "Bombay shows an advance in raw cotton of 1,951,000*l.*, and Madras a similar increase of 331,000*l.*, while Bengal fell off by 253,000." In the absence of further data, which are not available here (Bellary) at the time of writing, it would seem that the cotton export of India is being maintained.

9. There is one other feature in the traffic prospects of this line which may be noted. As yet the oil seed export of Karwar is not large, yet the black soil of Dharwar and Bellary is very well suited for oil seeds. And if there were a railway through these tracts there is every probability that the area under oil seeds in, and the traffic in seeds from, these districts would increase as rapidly as the acreage of and trade in this important staple have risen during the last two years throughout Berar, Khandesh, Nagpore, and the Nerbudda country.

10. There is one consideration on the other side that is against the financial success of the scheme to be noted, and that is that the railway and its traffic may hereafter involve the Government in heavy charges for improving Karwar port. The Committee write (paragraph 44): "We wish it, however, to be clearly understood that should Karwar ever become the port or base of a system of railways, and its trade receive great development, it will undoubtedly be essential that harbour works of some magnitude be undertaken, which would add to the limited sheltered accommodation at present available for shipping." What the final cost of these suggested works might be it might not be safe to estimate, but it was alluded to in Major-General Kennedy's letter of February 1873 as 10 lakhs of rupees.

11. It will be seen from the annexed papers on the cotton traffic of the Bellary country that some of the best informed traders consider that the Madras port will attract more cotton from the ceded districts than Karwar is likely to do. And they even say that the proposed line, if made, will probably bring Dharwar cotton *via* Bellary to Madras instead of carrying Bellary cotton *via* Dharwar to Karwar. About the magnitude of the cotton trade there seems no doubt whatever, and if the anticipations of the Bellary cotton dealers prove correct, then the section from Hooblee to Bellary will be the best paying part of the line, and it will bring a heavy traffic on to the 305 miles of guaranteed railway between Madras and Bellary. And this length from Bellary to Hooblee is the cheapest portion of the line, costing 6,000*l.* a mile as against 9,000*l.* per mile on the length from Hooblee to Karwar.

12. Since the foregoing paragraphs were written, information has been received that the Government of India have admitted the Karwar State Railway into the list of projects which are to be taken up within the next six years. The local authorities estimate

that about Rs. 50,00,000 will have to be spent on relief wages in the Bellary district during the next five months, and they consider that the suitable works in the district will be exhausted before that total has been spent. It therefore seems decidedly advisable to spend as much as practicable of the relief wage fund on the work of the Karwar Railway, which is (it is believed) to be undertaken during the next six years. And the part of the line on which relief labour can be most promptly and conveniently employed in the section from Bellary to Hooblee.

Bellary and Karwar Railway scheme.

No. 77.

Local. No. 91 E.—325 of 1877.

Nos. 77. 133.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA.

V.—Establishments.

Department of Revenue, Agriculture, and Commerce,
February 12, 1877.

I have the honour to acknowledge your letter No. 116, dated 2nd instant,* which was received in Bombay on the 7th idem; a copy of this letter, published in the Gazette of India of the 3rd instant, had reached this Government in that form on the day previous to the receipt of the original.

Interpretation of the instructions of the Government of India in regard to preservation of life.

*No. 42.

2. From this communication his Excellency in Council learns that, when he issued the orders contained in Government Resolution No. 30 E.—158, dated 25th January 1877, he had “seriously misunderstood” the views of the Government of India, as expressed in their instructions to Sir Richard Temple, and his Excellency in Council is so fully sensible of the responsibility cast upon this Government for correctly interpreting all orders of the Government of India in the present crisis, that he feels compelled first to call attention to certain prominent passages in the instructions to Sir Richard Temple.

3. In the 2nd paragraph of those instructions you observe,—

“Even for an object of such paramount importance as the preservation of life, it is obvious that there are limits which are imposed upon us by the facts with which we have to deal. If the estimate of the Local Governments are to be accepted, the relief of the existing scarcity in the Madras and Bombay Presidencies, including loss of revenue, will not cost less than six and a half millions sterling. Considering that the revenues are barely sufficient to meet the ordinary expenditure of the Empire, and that heavy additional taxation is both financially and politically impracticable, we must plainly admit that the task of saving life, irrespective of the cost, is one which it is beyond our power to undertake. The simple fact is this, that the recurrence of a few famines, such as that from which the country is now suffering, or such as that which occurred three years ago in Behar, would, if measures of relief were carried on upon that principle, go far to render the future Government of India impossible. The embarrassment of debt, and the weight of taxation, consequent on the expenditure thereby involved, would soon become more fatal to the country than famine itself.”

And in the 3rd paragraph you add,—

“If relief works are carried on upon wrong principles; if labour is not strictly exacted from all who are physically able to work; if proper supervision is wanting, and people find that they can obtain, almost for the asking, and in return for next to no work at all, wages in money or in grain, there is hardly any limit to the numbers who even in prosperous times may be attracted to them.”

4. This Government, therefore, came to the conclusion that, in the opinion of the Government of India, there was a limit in respect of cost beyond which, even for the preservation of life, the measures of Government could not go; and, further, that with the object of keeping the expenditure within that limit, and thus enabling the Government to give the largest amount of relief to the population, it was the duty of this Government to exact labour strictly from all who were physically able to work; and they, therefore, ordered that a person refusing to perform work, which he was capable of doing, should not, while persisting in that refusal, be relieved at the public expense.

5. In the 4th paragraph of your letter of the 2nd instant, the idea of limiting the efforts which the Government should make for the preservation of life by any consideration of cost, is, however, entirely discarded, and you announce the determination of the Governor-General in Council, “which he thought had already been made sufficiently

Interpretation of instructions in regard to preservation of life.

“clear,” to be, that “no one shall die of starvation if it be in the power of the Government to prevent it.” The Government of India then rules as follows:—

“We say that human life shall be saved at any cost and at any effort; no man, woman, or child shall die of starvation.”

From these words it is to be understood that there are no limits to the responsibility of the State, either as regards the efforts it may make, or the outlay it may incur, with the object of preventing people from dying of starvation.

6. The test case taken by this Government was that of a man “who wilfully and deliberately refuses to render the reasonable equivalent demanded by the Government for the means of subsistence which it is ready to afford him;” and in modification of the previous orders, which were, that no person was to be permitted “through obstinacy to die of starvation,” it was, in accordance with what was at the time believed to be the intention of the Government of India ordered, that no relief should be given to “an individual refusing to perform work which he is capable of doing.” Your 5th paragraph, however, contains the following instructions:—

“Under almost all circumstances, which, if the Government of India is rightly informed, are likely to hold good in the distressed districts of the Bombay Presidency, where the population is almost wholly agricultural, and accustomed to field and other manual labour, the rule laid down by the Government of Bombay appears quite proper. That rule is, that ‘in the case of an individual refusing to perform work which he is capable of doing on the terms fixed by Government no relief shall be afforded him at the public expense during the continuance of such refusal.’”

7. This sentence, I am to submit, seems practically to confirm, and to accord approval to, the orders issued by this Government, which, earlier in the letter, the Government of India hold to have indicated a “serious misunderstanding” of the intentions of the Government of India; and his Excellency in Council, I am to state, feels himself, therefore, in some difficulty. It is true that your letter goes on to state that “the result of such refusal will, certainly, in the case of agricultural labourers, not be death from starvation;” but the question is, should there be such obstinacy is the individual to be allowed to die?

8. The Governor-General in Council expresses his disbelief “that any one ever died of starvation through obstinacy,” and the Governor in Council would be glad to think that his Excellency is right in this opinion; but there is some reason to apprehend that instances of the nature referred to are not so unlikely to happen as is assumed. Recent reductions in relief wages have been made in this presidency, with a view of giving full effect to the policy first announced by the Government of India, orders regarding the exaction of moderate tasks on relief works have been reiterated, and measures have been taken for transferring able-bodied people from the Civil to the Public Works Department works. The immediate effect has been, that large numbers of people have left the works, declining to submit to the reduction of wages, or to perform the required tasks, or to accept the work tendered. There are other influences at work to sustain them in this movement, and the people are, many of them, voluntarily, suffering great privations.

9. Some of those who are on strike are comparatively strong and robust, and able, for a time, to endure privation, but others are weakly; they appear to be acting in bodies, and in concert, and the fear is, that before the majority, who are comparatively strong, are brought to reason, some of the weakly will be reduced to a condition of great prostration. They wander about, and may die out of reach of assistance. The Government, therefore, is placed in this dilemma: if they give way to the people, they cannot successfully carry out the policy of the Government of India—in which they concur—of strictly limiting expenditure; and if they do not give way, some deaths may occur. Feeling, therefore, that their rule has been approved by the Government of India, under what they cannot but hold to be too sanguine a view of the case, they will, until otherwise instructed, act upon the positive injunction contained in your 4th paragraph, that “no one shall die of starvation if it be in the power of the Government to prevent it.”

10. As regards the cases put in your 5th paragraph of the respectable class of women who cannot appear in public, and of those who have caste prejudices, I am to observe that this Government endeavoured to guard themselves as regards both. It was stated in their Resolution which the Government of India review, that the orders would apply to those only who refused a reasonable equivalent, or who refused to perform work which he is capable of doing, and in the Summary No. XI., for the week ending the 26th January 1877, it was stated as follows:—“It is scarcely necessary to add that Government never require people to do work forbidden by their caste rules.” This Government had no intention to compel women to appear in public whose habit it is not to do so; or to

demand from any individual work or service which his caste prejudices would render it impossible for him to perform.

11. His Excellency in Council, I am to say in conclusion, is fully sensible of the privations to which large masses of the people are now subjected, and from which the utmost efforts of the Government can only partially relieve them. He will persevere in his endeavours to enforce economy without a sacrifice of life, and he is confident that the district officers will continue to afford their assistance with the praiseworthy energy and ability they have up to this time exhibited.

No. 78.

Telegram, No. 181, dated 13th February 1877.

No. 92.

From ADDITIONAL SECRETARY, Revenue Department, Calcutta, to SECRETARY, Public Works Department, Bombay.

Your telegram of yesterday. Government of India entirely shares opinion of Government of Bombay as to mischief of yielding to strike on relief works attributable to combination, and thinks that relief wages should not be raised if Government of Bombay are quite satisfied that the rates are sufficient to keep people alive—a point which must necessarily be left to its judgment. Government of India presumes that if small works are closed for the transference of labour to large ones, you will make arrangements for providing for the sustenance of the labourers during their transit. The Viceroy has received telegrams from Sholapore complaining of reductions of wages, but has taken no notice of them, being fully persuaded that the Bombay Government will act with sound discretion in carrying out a difficult but necessary operation.

Wages of those employed on relief works.

No. 79.

XXX.—MINUTE by SIR RICHARD TEMPLE, regarding the Loss of Revenue that may be caused by the Failure of Harvests during the years 1876–1877 in the Presidencies of Bombay and Madras. Nos. 80. 115.

I have already submitted, in my minutes of the 22nd January* and the 5th February,† the best estimate I can frame of the probable relief expenditure in the Bombay and Madras Presidencies. I now present an estimate of the loss of revenue that will probably be caused in the two presidencies by the present failure of harvests, together with an abstract of the probable cost of the famine in respect both of relief expenditure and of loss of revenue.

Loss of revenue in 1876–77 in Bombay and Madras. *Part II., p. 59. †No. 52.

2. The total relief expenditure was in those minutes taken at—

		Rs.	
For the Bombay Presidency	-	1,26,00,000	
For the Madras Presidency	-	2,92,00,000	
Total	-	4,18,00,000	£4,180,000

The present estimate shows that the loss of revenue due to the scarcity will probably be—

		Rs.	
In the Bombay Presidency	-	54,00,000	
In the Madras Presidency	-	1,57,50,000	
Total	-	2,11,50,000	£2,115,000

Grand total of relief expenditure and loss of revenue - - £6,295,000

But if the Government, instead of remitting the whole of the land revenue due from lands whereon there has been severe failure of harvest, should see fit to suspend the Government demand, and if it should be decided to collect in future years such propor-

Loss of revenue in Bombay and Madras.

tions of the arrears as the people might reasonably be expected to pay, then the total cost of the famine might be very materially reduced: 183 lakhs (1,830,000L.) is estimated as the amount of land revenue which ought not to be collected this season; and it is possible that out of this total arrear about 130 lakhs (1,300,000) could be collected in future years, provided that the rainy seasons of 1877 and 1878 be favourable. If the arrears of land revenue of the present season be suspended and not remitted, and if these arrears be hereafter collected wherever possible, then the total net cost of the famine may perhaps be reduced from $6\frac{1}{4}$ to about 5 millions sterling.

3. With this heavy relief expenditure in prospect, with the certainty of temporary diminution of land revenue, and of partial loss of other heads of revenue, it is very important to minimise the ultimate loss of land revenue as far as possible. So far as I am at present informed, it will not be possible to collect this season a larger proportion of the land revenue than the revenue authorities of the two presidencies themselves propose to collect. But if the arrears, which cannot be now collected, be suspended only instead of being remitted, some chance at least will be afforded of recovering the arrears of this year, in part at least, if bumper harvests should be vouchsafed next season.

4. In my opinion it is quite just for Government, acting in behalf of the public treasury and of the general taxpayer, to recover in future years what fairly and reasonably can be recovered, on account of the arrears of a bad season. In all the districts of Bombay and in many of the Madras districts long term settlements of land revenue have been made at moderate and equitable rates. Even in the districts of the Madras Presidency, which have not yet received a long term settlement, the rates of land revenue assessment have been made lighter and more equitable than they were before. So that our system allows to the people the profits accruing during good years, thereby conceding to them a part of the full share of the produce which would have been demanded under preceding Governments. Some remissions of land revenue will in the end have to be made. But I desire to submit this expression of my opinion that, for the present at least, the land revenue demand, which cannot be collected this season, from the drought-stricken districts should be suspended and not remitted.

No. 80.

No. 115. MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, regarding the estimated Loss of Revenue on account of the Failure of Crops in 1876-77.

Bellary, 13th February 1877.

Loss of revenue through failure of crops in 1876-77.

Estimates have been prepared showing, according to available information, the probable relief expenditure in the Bombay and Madras Presidencies during the season from September 1876 to August 1877. The totals were—

		Rs.	£
Estimated Bombay expenditure	-	1,26,00,000	or 1,260,000
„ Madras expenditure	-	2,92,00,000	or 2,920,000
Total	-	<u>4,18,00,000</u>	<u>4,180,000</u>

If everything turns out well, if the usual spring and summer rain falls seasonably and sufficiently, then the expenditure may come short of this total. But if the expected April showers should not come, if distress should break out in fresh districts, or if it should be impossible to maintain the economical restrictions now being imposed, then the total may be exceeded. Out of the total of about $4\frac{1}{4}$ millions sterling, probably more than $1\frac{1}{2}$ millions have at the present time of writing (10th February) been already spent. Four months have yet to elapse before the pressure can even, at the best, greatly abate; and we can hardly hope that expenditure on a large scale will cease until the next six months are over.

2. There remains the question of the loss of revenue. This will be of two kinds: first, revenue which cannot be collected at the time it is due, and secondly, revenue which probably can never be collected at all. In Sir Richard Temple's Minute of the 12th January, on the Deccan district, it was stated (paragraph 12) that, according to the estimate furnished by the Collectors and accepted by the Commissioner of the southern division, the loss of land revenue would probably be 50 lakhs of rupees.

3. So far as Sir Richard Temple has been able to learn, there will not be directly due to the famine any appreciable loss of revenue in the Bombay Presidency under the head

of stamps, salt, or Customs. Some loss of revenue there will be under the head of abkari, or excise on spirits; but this loss will probably not exceed $3\frac{1}{2}$ or at most 4 lakhs. Regarding these miscellaneous items of revenue there is no certain ground for an estimate, which must therefore be subject to correction. Loss of revenue in 1876-77.

4. The Revenue Board of the Madras Presidency, on the 30th November, estimated (see Madras Government Proceedings of the 3rd January) that the loss of revenue caused by the failure of crops would be—

		£
Land revenue	- - 133 lakhs of rupees or	1,330,000
Abkari or liquor excise	- 12 " "	120,000
Customs	- - $\frac{1}{2}$ " "	5,000
Salt	- - 9 " "	90,000
Stamps	- - 3 " "	30,000
Total	157 $\frac{1}{2}$ " "	1,575,000

5. As the Board of Revenue, at paragraph 17 of their report, state the total estimated loss of revenue at 142 lakhs, it should perhaps be explained how each of the about figures was obtained from the report of the Board; thus—

Land Revenue.—Paragraph 11 of the Board's report shows that the "extraordinary remissions necessary during the current year" are 120 lakhs, while 13 lakhs will be sufficient to cover the additional loss during the following year. It is also stated in the same paragraph that the total loss in the two years, compared with the average collections of the past five years, is estimated at 133 lakhs of rupees.

Abkari (liquor excise).—Paragraph 11 of the Board's letter estimates that Rs. 53,32,500 only will be collected during the current year as against the previously sanctioned estimate of Rs. 63,80,000. This gives a loss of $10\frac{1}{2}$ lakhs. The same paragraph estimates that the following year (1877-78) will yield an abkari revenue of Rs. 61,70,000 as against Rs. 63,39,000 the actual of 1875-76. This gives a loss of $1\frac{1}{2}$ lakhs in round numbers for the coming year, and a loss of 12 lakhs for the two years.

Customs.—Paragraphs 12 and 13 of the Board's letter, and the appended statements, show that the sea Customs receipts, though about four lakhs less than the actuals of 1875-76, will yet be equal to the sanctioned estimate. The loss of four lakhs is probably due to other causes than famine, but the land Customs receipts are now taken by the Board at Rs. 62,000 below the sanctioned estimate, and this loss (of say $\frac{1}{2}$ a lakh) may be due to famine.

Salt.—The statements appended to the Board's report give the following figures:—

	Rs.
Average of five years' actual receipts ending 1875-76	- 1,31,47,000
Sanctioned estimate for 1876-77	- 1,36,50,000
Estimate now fixed by the Board for 1876-77	- 1,30,58,000
Ditto ditto 1877-78	- 1,33,69,300

This gives a loss of 6 lakhs on the current and 3 lakhs on the coming year, as compared with the estimate sanctioned before the scarcity began. Thus 9 lakhs may perhaps be taken as the loss due to famine.

Stamps.—The statement appended to the Board's report gives the following figures:—

	Rs.
Average of five years' actual receipts	- 45,84,000
Sanctioned estimate of 1876-77	- 50,00,000
Estimate now fixed by the Board for 1876-77	- 48,00,000
Ditto ditto ditto 1877-78	- 49,00,000

showing a loss of three lakhs probably due to the famine.

6. When the Board of Revenue submitted their estimate they wrote that the Collectors "appear to have in general approached the question in a more desponding frame of mind than is perhaps justifiable, and the Board think that the actual loss will certainly not exceed the sums now reported. The estimate of loss is therefore a maximum one." Sir Richard Temple, however, ascertained on the 6th February from the Board's secretary that the Board's estimate of loss of revenue was under revision, and that the estimated loss will probably exceed the figures offered by the Board on the 30th November.

Loss of
revenue in
1876-77.

7. According to present information, therefore, the expected loss of revenue due to the famine will be—

	Land Revenue.	Other sources of Revenue.	Total.
Bombay Presidency	- 50 lakhs	4 lakhs	54 lakhs.
Madras Presidency	- 133 „	24½ „	157½ „
Total	- 183 „	28½ „	211½ „
	or £1,830,000	£285,000	£2,115,000

8. Sir Richard Temple has no special information whereby he could check the figures offered by the Board, save only in respect of the “salt” revenue estimate. He ascertained from some of the collectors that the salt revenue was, so far, coming in steadily. And the statement published at page 86 of the “Gazette of India” shows that up to the end of December 1876 the salt revenue of Madras for the nine months ending on the 31st December was only Rs. 2,40,000 behind the receipts for the same period during the previous year 1875-76, and was somewhat above the average receipts of the three previous years. Possibly the loss on the salt revenue may be less than the figure taken in the Board’s estimate.

9. But there is one very important general consideration which vitally affects any estimate of loss of revenue on account of famine, and that is the question whether the land revenue due from ryots whose crops have wholly or partially failed, should be remitted for ever, or whether the unpaid arrear should not for the present be held in suspense, so that a part, at any rate, of the arrears should be collected from ryots who may have good harvests during the next two years. Sir Richard Temple has already laid an expression of his views on this question before the Government of India. He considers that the general taxpayer cannot afford, and the circumstances of the case do not require, that the funds of the public treasury should be consumed at both ends to the full extent that has been proposed. About four and a quarter millions sterling are to be spent on relieving the people of certain districts, and there seems no reason why 1,830,000*l.* of land revenue due from those districts should also be permanently remitted, unless strict justice or unavoidable necessity absolutely dictate such wholesale remission of the public revenue.

10. From a strict justice point of view there is, as Sir Richard Temple understands the matter, no case for wholesale remission. All the affected districts in Bombay, and several of the districts in Madras, enjoy a 30 years’ settlement, under which the land revenue is avowedly assessed at a rate which leaves a liberal margin to cover loss in bad years. Even in those Madras districts where a long term settlement has not yet been made, the land revenue rates are now very much lighter and more equitable than they were in former times. And there is no contract, either express or implied, between Government and the ryot that the land revenue shall be remitted when the crops fail or are short.

11. The only possible exception would be in the case of lands in the Madras Presidency irrigated from tanks or river channels, and assessed at what is locally known as “wet” rates. It appears to be the custom of revenue administration in Madras to remit the “wet” assessment of land for a year, in which by reason of failure of water supply no crop whatever is saved. If the custom as above described has been heretofore always observed, there might perhaps be difficulty in making an alteration this year. But as a matter of principle it would be reasonable to keep as an arrear against these lands so much of the “wet” assessment as would be equal to the land revenue thereon at the ordinary “dry” rate. But in any case care will have to be taken against any extension of the custom to irrigated lands on which the crop may have been short, without having utterly failed. For during a time of very high prices like the present, the money value of even a poor crop will have been very considerable.

12. If the case for remission fails from the point of view of strict justice, then Sir Richard Temple apprehends that there is nothing in the circumstances of the case to

* NOTE.—In Madras, land irrigated from wells pays the “dry” rate of assessment only.

make general remission of land revenue necessary. All the Collectors with whom Sir Richard Temple has discussed the matter, considered the present rates of “dry” assessment are light, and that the ryots could easily pay the arrears of this year, if the country is blessed with favourable seasons in 1877 and 1878. Of course, there may be exceptional cases, and partial remission may have to be granted in parts of Sholápúr and in some tracts of Kurnool, where the recent settlement caused considerable increase of revenue, or where the ryots are exceptionally poor. But much discrimination should be exercised, and no remissions should be granted as a

matter of course. Experience in Northern Behar shows that a body of ryots, whose rents were very much higher than the Bombay and Madras rates, were able to pay up, within two years after the famine was over, almost the whole of the price of the grain lent to them by the Government in the year 1874.

13. Sir Richard Temple fully admits that it would be regarded by the ryots as a gracious concession on the part of Government, if the land revenue, which cannot be collected this year, were to be remitted. If the country had a large surplus income, then much might be said for sparing the sufferers by drought and scarcity from the necessity of paying their arrears of land revenue. But the facts are unhappily otherwise, and if $1\frac{3}{4}$ millions of land revenue are finally remitted, the money will have to be made good in some other way. There will possibly be pressure on some of the ryots until the arrears are paid up, but it seems fairer to the rest of the Empire that such pressure should occur, rather than that the whole of this sum ($1\frac{3}{4}$ millions sterling) of land revenue should be remitted.

14. It may, indeed, happen that a part of the famine country may be afflicted for another year; should this unhappily be the case, the position would have to be reconsidered. For the present, the Government will doubtless make its arrangements in view of existing facts only.

15. If Sir Richard Temple's view on this very important point of land revenue remissions be accepted, then it may probably be the case that from 120 to 140 lakhs of land revenue will hereafter be collected out of the 183 lakhs which are estimated as probable arrears at the end of the famine, and the gross total cost of the famine of 1876-77 in the Bombay and Madras Presidencies will be—

Relief expenditure—					£	£
in Bombay	-	-	-	-	1,260,000	
in Madras	-	-	-	-	2,920,000	
						4,180,000
Loss of revenue—						
in Bombay	-	-	-	-	540,000	
in Madras	-	-	-	-	1,575,000	
						2,115,000
Total	-	-	-	-	-	6,295,000
Deduct probable recoveries of land revenue in future years	-	-	-	-	-	1,295,000
Net	-	-	-	-	-	£5,000,000

If, however, wholesale remissions be given, then the cost of the famine will be $6\frac{1}{4}$ millions sterling.

* East Indian Railway.
Great Indian Peninsula.
Scind, Punjab, and Delhi.
Bombay, Baroda.
Madras.
South India.
State Railways.

† 2,500 tons a day, for five months, over an average lead of 400 miles, gives, at 9 pie per ton per mile, about 700,000*l.* gross earnings.

16. As a set-off against the famine expenditure may perhaps be reckoned the additional earnings on *all** the guaranteed Indian railways, due wholly to the famine grain traffic. The total extra net earnings on all the lines, due to the famine traffic, will probably be not less than 450,000*l.*,† the greater part of which will be a direct gain to the public treasury.

No. 81.

XXXII.—MINUTE by SIR RICHARD TEMPLE, regarding the Purchase and Transport of Nos. 82. 115. Government grain in the Madras Presidency.

13th February 1877.

I desire to take this opportunity of recording, subject to correction upon matters of fact, what I understand to be the state of the case in respect to the purchase and transport of Government grain in the Presidency of Madras.

2. When I proceeded to the Madras Presidency my information was that the Government of Madras had already purchased 30,000 tons of grain from places beyond the presidency, and intended to purchase large additional quantities, either locally or from distant places, according to circumstances, unless indeed the policy of purchasing grain by Government should be modified, either with reference to instructions from the Government of India, or in consequence of the progress of the private trade in grain. The probability of further purchases being intended was borne out by orders which had

Purchase and transport of grain in Madras Presidency.

Purchase
and trans-
port of grain
in Madras.

been issued by Government for the transport of large quantities of grain in the ceded districts and Kurnool.

3. When at Madras on the 26th January I received from the Government of Madras two statements of the purchases made in Calcutta and in Madras, the first of which showed a total of 30,000 tons of rice, the amount ordered from Calcutta. The second showed an additional amount of 11,000 tons bought in Madras. The total thus amounted to 41,000 tons.

4. Besides this amount there were, as I understood, certain small quantities of grain purchased locally by district officers for payment of relief labourers in kind in preference to cash.

5. I learnt then at Madras that no further purchases by Government were either made or intended; that purchasing by Government in any way had ceased.

6. I have since had the advantage of verifying the above facts by conference with his Grace the Governor at Bellary on the 12th February, and I still understand that they are substantially correct, and that the Government of Madras have not purchased anything beyond the 30,000 tons from beyond the Presidency, and that no further local purchases have been or will be made.

7. When the cessation of purchases by Government was announced to me on the 26th January, it seemed to follow that the relation between the Government of Madras and Messrs. Arbuthnot and Company as Government grain brokers would immediately cease: such, indeed, I presumed to be the case. Up to that time, however, the impression in the interior of the presidency seemed to be that the firm were still up to that date considered as Government brokers. It was assumed that from that time at all events they would cease to be Government brokers. It has since been notified that they had already ceased to act in that capacity since the 5th of January.

8. As regards the transport of Government grain, I understood, when at Madras on the 26th January, that the transport arrangements in the ceded districts and Kurnool would be revised with reference to the cessation of Government purchases; that the grain already purchased by Government would be transported to suitable localities, and no more.

9. I had by a minute dated the 19th January, and transmitted on the same date from Cuddapah to Madras, recommended that the plan of paying the relief labourers in grain be abandoned, and that a part of the Government grain already purchased should be sent to places distant at least 60 miles from the railway, and that the rest should be held in reserve. No definite reply was given to me at the time, nor has any since been received by me to that recommendation. It seems to me, however, since I re-entered the ceded districts on the 10th February, that quantities of this grain are being sent to several places within 60 miles of the railway, and comparatively close at hand, and I gather that the transport arrangements are so made as to include the whole of the Government grain, leaving none in reserve. It appears to me clearly that the expense of carting the grain to these easily accessible places, that is, to places within 60 miles of the railway, might be saved, inasmuch as there is no likelihood of its being wanted in those places. And if such grain be regarded as a reserve, the least expensive arrangement will be to keep it at Madras, avoiding the cost of sending it up the country by railway and then carrying it by country carts further into the interior. I would again ask the consideration of the Government of Madras to the matter.

No. 82.

No. 115.

No. 62, dated Bellary, 13th February 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE
GOVERNMENT OF MADRAS.

Forwarding
No. 81.

By direction of Sir Richard Temple, I have the honour to forward copy of a minute recorded by him in respect to the purchase and transport of Government grain in the Madras Presidency.

2. Inasmuch as this subject has attracted some attention in the Calcutta market, and as it may receive the notice of the Government of India, Sir Richard Temple would be much obliged if the Government of Madras would favour him with information whether the facts as mentioned in this minute are correct. If the present statement is open to correction, or ought to be supplemented in any particular, Sir Richard Temple would be much obliged if you could, with the permission of the Madras Government, inform him accordingly.

No. 83.

Note by Lieutenant D. A. Scott, R.E., Officiating Deputy Consulting Engineer to the Government of India for guaranteed railways, on the accumulation of grain at stations on the East Indian Railway. Nos. 156. 181.

13th February 1877.

On the 25th January I visited the stations between Howrah and Sahibgunge.

I found the platforms of most of the stations between Burdwan and Sahibgunge covered with bags of rice waiting to be carried to Howrah.

At each of these stations a register is kept, in which the dates of the receipt and despatch of consignments are entered. The consignments are despatched strictly in accordance with the place they occupy on this register.

2. The following statement gives the quantity of grain waiting despatch at the principal stations on the loop line on the dates on which I visited them.

In column two of this statement is given an approximate estimate of the amount of rice stored in the adjacent bazaars for export. This estimate can only be a very rough one; but it will serve to give one an idea of the enormous quantity of rice still remaining to be carried away by the railway from this district alone.

In the third column will be found the number of maunds despatched to Howrah during the week previous to my visit, viz., from the 18th to the 24th January inclusive.

Accumulation of grain at the stations of the East Indian Railway.

APPROXIMATE Quantity of Grain for DESPATCH at the Principal Stations and adjacent Bazaars on the Loop Line.

Names of Stations.	Grain for despatch.		Quantity despatched from 18th to 24th January inclusive.	REMARKS.
	At Stations.	In Bazaars.		
	Mds.	Mds.	Mds.	
Gooshkharah - - -	8,000	19,000	4,159	(a) On the 25th January 1877.
Bhulpore - - -	15,000	90,000	10,588	
Amoodpore - - -	16,000	2,000	3,906	(b) On the 26th January 1877.
Cynthea - - -	20,000	30,000	8,038	
Mullarpore - - -	11,000	1,000	(a) 4,747	A very large quantity for export in the bazaar, merchants despatching goods by boats.
Rampore Haut - - -	7,000	19,000	6,776	
Nalhati - - -	53,000	21,000	10,456	
Mooraroe - - -	50,000	30,000	5,364	
Pakour - - -	12,000	38,000	4,300	
Sahibgunge - - -	11,000	5,000	23,113	
Bhaugulpore - - -	15,000	—	(b) 8,164	
Colgong - - -	15,000	15,000	4,283	
Total - - -	2,33,000	2,55,000	93,894	

3. Approximately there were 5,00,000 maunds of rice at the stations and in the bazaars waiting to be taken away, and the amount removed during the seven days given in the statement is a little short of 1,00,000 maunds. At this rate it would take five weeks to clear off the grain accumulated on this part of the line.

From a letter which I received from Mr. Hime, the Collector of the Beerbhoom district (see Appendix), it appears that no heavy export of rice need be expected after this rush, so that by the end of this month it may fairly be supposed that the Railway Company will have carried off nearly the whole of this large rice traffic.

The country about the stations on this district has been invaded by a number of foreign merchants from different parts of India, who have been attracted to these parts by the unusually good harvest and the high prices obtainable in Calcutta.

4. The most noticeable accumulations of grain were at Bhulpore and Nalhati.

At Bhulpore bags of rice were heaped up on both sides of the road leading to the station for about a quarter of a mile. There had been a fall of rain two or three days previous to my arrival, and some damage had been done to the rice, but the loss sustained by the merchants could not have exceeded one per cent.

At Nalhati, where the State railway joins the East Indian Railway, great discontent prevailed amongst the merchants owing to the right of preference to through goods from the State railway having been abolished. I learnt from Mr. Hoyle, outdoor traffic inspector of the loop line, who accompanied me over his district, that it was customary to give priority of despatch to through goods; but that owing to several merchants of

Accumulation of grain at stations of the East Indian Railway.

Nalhati having booked their consignments to Azimgunge and then re-booked them through to Howrah, in order to reap the advantage of this preference, the Traffic Manager had put a stop to the arrangement. Through goods are now treated as local goods, and are registered accordingly.

Major Luard, who visited Nalhati on duty some few days after I was there, and who had more leisure to inquire into the actual circumstances of the case, has written a note on the subject, so that it is unnecessary for me to say more than this, that I think, before taking any decisive steps in the case, the matter should have been referred to the Agent for his consideration, and also that timely notice of the change should have been given to the Manager of the Nalhati line; for, however fair this action may have been to the majority of the local merchants of Nalhati, it was hardly fair on the State railway, which is responsible for the through-consignments lying at Nalhati station.

At Burdwan, the whole station compound was filled with bags of rice. The actual amount registered on the 25th January was 58,000 maunds, and consignments were still being brought in. The total amount of rice carried away from the 18th to 24th January was 11,000 maunds; but the register was only cleared off as far back as the 4th December 1876.

5. On the 27th January I met Mr. Hudson, District Traffic Superintendent, at Dinapore. He informed me that in his district (which extends from Nawadi to Mogulserai) he was receiving no empty waggons, and he was able to work off the outwards traffic with the waggons which brought in the inwards traffic. There were no noticeable accumulations of grain in this district, but the station-masters at almost all the stations told me that merchants were not sending their goods to the stations because there was so much delay in procuring waggons.

6. Between Mogulserai and Allahabad the stations were pretty free from accumulations of grain. At Mirzapore, on the 29th January, there were 30 waggon loads of seeds, sugar, &c. waiting despatch. The seeds were for Howrah and Bombay for export, and the rice for Howrah. The station-master informed me that in former years the rice traffic had been inwards coming from Bengal, but this year, owing to the extraordinary demand in Howrah, merchants were exporting it. There was a large quantity of seeds for despatch in the bazaar.

7. On the 30th January, at Cawnpore, I found an enormous accumulation of grain. There were on the ground 100,000 bags, or 2,50,000 maunds, of grain for the Great Indian Peninsula Railway alone, but only a small quantity for Howrah. The gates of the station yard had been closed since the 15th of the month, but they were to be opened again on the 31st, when 100,000 bags of wheat and seeds for Howrah were actually registered for admission. No more consignments were being sent to the Great Indian Peninsula line on account of the block of loaded waggons at Jubbulpore; but as soon as this block was removed, through booking would be resumed.

8. From the 1st to the 29th January the total weight of grain sent from Cawnpore to the Great Indian Peninsula Railway was 2,66,750 maunds, and to the main line during the same time 2,73,400 maunds. The average number of loaded waggons despatched per day during these days was 89.

9. Mr. Carter, the Deputy Traffic Manager, informed me that here and at all stations in his district the strictest impartiality was observed in the despatch of consignments, and that preference was not even given to English firms, who brought some lakhs of rupees to the Company yearly.

10. The principal accumulations in the district, which extends from Cawnpore to Delhi, were at Etawah and Delhi.

At Etawah station there were 6,000 maunds of grain, cotton, and ghee for Howrah, and outside the station about 50 waggon-loads of wheat for Howrah, and other grains for the Great Indian Peninsula Railway.

At Delhi there were in all 180 waggon-loads of goods lying inside the station yard, 400 waggon loads outside the station yard, in the serai, and a very large quantity in the bazaar. From this district the number of loaded waggons sent to Howrah and stations below Cawnpore during January was 2,222, and to the Great Indian Peninsula Railway 568.

11. On the Jubbulpore line there were very large quantities of grain accumulated at the four stations next Jubbulpore, namely, at Kutnee, Sleemanabad, Sehora Road, and Deoree.

The following statement gives the quantity of goods registered at these stations, with an approximate estimate of goods stored in the bazaar and outside the station compound for export.

STATEMENT showing Quantity of Outwards Goods on hand at some of the Stations on the Jubbulpore Line, 5th February 1877.

Name of Station.	Quantity of Goods at Station.	Description.	Where for.	Approximate Quantity of Goods in the Bazaar.	Number of Waggon's supplied in December 1876.	Number of Waggon's supplied in January 1877.	Accumulation of grain at stations of the East Indian Railway.
Kutnee -	5,000 mds. -	Rice, wheat, seed, and mowha flower.	Great Indian Peninsula Railway.	40,000 bags, or about 110,000 maunds.	194	135	
Sleemanabad -	7,000 " -	Grain, seeds, and mowha flower.	"	8,000 mds. -	53	45	
Sehora Road -	25,000 " -	Rice, wheat, teel-seed and lin-seed.	"	10,000 " -	66	61	
Deoree -	42,000 " -	Wheat, seeds, rice, &c.	"	12,000 " -	95	67	

12. At Jubbulpore, on the 4th February, there were 26,000 bags or 65,000 maunds of grain, &c. waiting despatch. Goods registered so far back as the end of November last were only then being sent off. I was told that there were about 20,000 bags of grain for export in the bazaar.

On this date (4th February) there were 227 loaded East Indian Railway waggon's waiting to be taken away by the Great Indian Peninsula Railway. A statement is given in the Appendix showing the number of East Indian Railway waggon's on the Great Indian Peninsula Railway during January; also the number of East Indian Railway waggon's detained at Jubbulpore daily, &c. From this statement it will be seen that—

		The daily average number of East Indian Railway waggon's on the Great Indian Peninsula Railway during January was	-	727	
"	"	sent to the Great Indian Peninsula Railway	-	-	93
"	"	returned loaded	-	-	7
"	"	" unloaded	-	-	74
"	"	detained at Jubbulpore	-	-	192

} 81

13. Thus, during this great rush of down traffic, the East Indian Railway has lost the use of a large number of waggon's, for which (I was informed by the Deputy Traffic Manager) they get no return from the Great Indian Peninsula Railway.

Considering that the stock of waggon's on the East Indian Railway is insufficient to meet the present requirements of the traffic, this large withdrawal of waggon's prevents the Company from working off the enormous accumulation of goods at some of their stations, which otherwise they might relieve to a very great extent.

14. The station-master at Jubbulpore informed me that lately the Great Indian Peninsula Railway had cut down their number of outwards trains from 10 to 6, on account of a deficiency of break vans. They had, however, borrowed some from the East Indian Railway.

He also said that in calculating the loads of their trains, the Great Indian Peninsula Railway took two of the East Indian Railway waggon's as equivalent to three of their own; so that 20 waggon's only were carried away by a Great Indian Peninsula train out of the usual East Indian Railway train load of 30 waggon's. The reason of this is, that the carrying capacity of an East Indian Railway waggon is 10 tons, that of the Great Indian Peninsula waggon being only six tons.

15. Altogether it is clear that the inability of the Great Indian Peninsula Railway to work off the rush of traffic brought down upon them has caused great loss and inconvenience to the East Indian Railway.

Another matter was brought to my notice at Jubbulpore which deserves attention.

The waggon mileage rate on both lines is the same, the carrying capacity of the East Indian Railway waggon's being 10 tons, whilst those of the Great Indian Peninsula Railway are most of them 6 tons.

16. On the 26th January I met the Traffic Manager at Jamalpore. He assured me that there had been no undue detention of East Indian Railway waggon's on the Great Indian Peninsula Railway, and that they were all (with perhaps one or two exceptions) returned within the allotted time. This seems to me to be a very liberal allowance, since the average detention of each waggon is about 10 days.

Grain traffic
on East
Indian Rail-
way.

The following figures give an idea of the present enormous down traffic on the E. I. R. :—

Goods carried to Howrah during December 1876.

	Tons.
Rice	30,000
Wheat	16,000
Other grains	13,000
Pulses	500
Total	59,500

To the Great Indian Peninsula Railway during the same month.

	Tons.
Wheat	7,370
Rice	7,120
Pulses	5,700
Other grains	1,470
Total	21,660

The traffic to the Madras line from the E. I. R. is merely nominal. Out of a daily average of nearly 800 tons of grain booked through on to the G. I. P. Railway during December, not more than 30 tons went on to the Madras line.

The average number of miles run per day (including those run on foreign lines) by covered goods waggons, open-sided waggons, and goods break vans during November 1876, as compared with November 1875, is as follows :—

	November 1876.	November 1875.
	Miles.	Miles.
Covered goods waggons	115 $\frac{1}{4}$	96 $\frac{3}{4}$
Open-side waggons	62 $\frac{1}{4}$	41 $\frac{3}{4}$
Goods break vans	118 $\frac{1}{4}$	102 $\frac{1}{2}$
The average for the whole stock is	90 $\frac{1}{4}$	74

17. In conclusion, I may add that this heavy traffic on the E. I. R. is being conducted with regularity, and consignments are despatched with the strictest impartiality.

At each station a register of goods is kept, in which the dates of receipt and despatch of consignments are shown. This register is strictly adhered to. It is hardly necessary for me to say that the goods rolling stock is inadequate to meet this heavy rush of traffic. At all the stations I visited (and I visited all the stations except those on the Chord and some of the branch lines), I do not think that there was a single station at which the station-master did not inform me that he was in want of waggons.

In the Appendix will be found two letters from the Traffic Manager, E. I. R., to the Agent of the Company, concerning the traffic to the G. I. P. Railway. It will be seen from the latter paragraph of his letter dated 22nd January 1877, that he repudiates the notion that more favour has been shown to the down traffic to Howrah than to the traffic to the G. I. P. Railway.

Indeed, it is evident from paragraphs 12 to 15 of this report, that the E. I. R. has not only given the G. I. P. Railway more traffic than it can deal with, but has also given it a large number of waggons, the use of which it could ill afford to lose.

No. 84.

Nos. 85, 115.

MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, regarding the Conditions and Prospects of the Mysore Province.

Bellary, 13th February 1877.

Mysore
Province.

Sir Richard Temple, at the request of the Government of India, visited Bangalore, and conferred with the Chief Commissioner, Mr. Saunders, C.B. By the courtesy of Mr. Saunders, he met all the officers of the Civil and Public Works Departments at the headquarters of the Mysore Administration; he met a deputation of the chief traders of Bangalore, and he travelled through the Bangalore and Kolar districts in company with the Commissioner, Colonel Pearse, and with the Deputy Commissioners, Mr. Ricketts and Mr. B. Krishna Iengar, C.S.I. Near Bangalore, and also in the interior of the

Bangalore and Kolar districts, Sir Richard Temple was able to inspect several gangs of relief labourers, and also some of the charitable relief houses. Mysore Province.

2. The province of Mysore consists of eight districts, with a total population of five millions. The population, the area, the estimated average out-turn of the current season's harvests, the number of persons on relief works and on charitable relief, and the proportion borne by the persons on relief to the whole population is shown for each district in the following statement. The per-centages of the population that are in receipt of relief does not, it will be seen, vary precisely with the extent of failure of crop. In some cases explanation of the variation can be readily given. For instance, the Tûmkûr district sends away annually some 30,000 labourers to the coffee districts. This year the coffee emigration was far larger than usual, and so fewer people were thrown upon the works. A similar explanation applies, in a less degree, to the Chittaldroog district. Many of these labourers are, however, now returning, because the coffee crop too is suffering from the drought, and many of the people will probably come upon the relief works.

Name of District.	Area in Square Miles.	Population.	Proportion of Crops saved.	Number on Relief Works in beginning of January.	Number on Charitable Relief in beginning of January.	Per-centage of the total Population who are thus receiving Relief.	Remarks.
Bangalore - -	2,914	828,000	2 annas	12,983	11,527	3 per cent.	* In the Kolar memorandum the proportion of the crop saved was taken at 2 annas, which was the Deputy Commissioner's estimate. The present figures give the estimate formed by the Commissioner and the Chief Commissioner.
Kolar - - -	2,577	618,000	3* "	8,500	3,763	2 "	
Tûmkûr - -	3,606	632,000	2 "	8,900	2,100	1½ "	
Mysore - - -	4,127	943,000	8 to 11 "	5,560	3,699	1 "	
Hassan - - -	3,291	669,000	8 "	9,746	4,249	2 "	
Shimoga - -	3,797	499,000	9 "	1,236	1,546	1½ "	
Kadur - - -	2,294	334,000	4 "	6,296	1,480	2 "	
Chittaldroog -	4,471	531,000	2 "	6,000	1,780	1½ "	
Total - - -	27,077	5,054,000	—	59,301	30,088	1½ per cent.	

3. In the Hassan and Shimoga districts, which lie close to the Western Ghâts, there was some rainfall, and there was a moderate harvest. In the Mysore district the rainfall to the south and the Cauvery irrigation to the north have brought up the average yield of the district. But over the rest of the province there has been grievous failure of rain; nearly all the rain-fed tanks in the northern districts are dry; and the "dry" crop has, for the most part, failed. The disastrous effect to the country from the failure of the tanks may be judged from the fact that Mysore possesses 16,000 irrigation tanks, and the "wet" or irrigated land is one-sixth of the whole cultivated area of the province. This failure has affected two-thirds of the Mysore province, while tracts inhabited by more than two millions of people must be held to be severely distressed.

4. The difficulties of the present year are aggravated by the facts that the crops of the previous year (1875-76) were poor, equal to about one-third of an ordinary yield all over the province. The crops of 1874-75 were, however, good and full. So bad had the failure of the previous year been in some parts, that in July 1876 water began to fail in parts of Chittaldroog. Large importations of grain into Bangalore by railway began in October; but it was not until the end of November, when the latter rains (north-east monsoon) had absolutely failed, that relief operations were generally begun throughout the province.

5. The grain markets of Bangalore and of the Mysore province are well supplied. Most of the grain exposed for sale is foreign grain that has come into Bangalore by railway from Madras and from the west coast. Private trade began early in the autumn to bring grain into Bangalore, and has been very active ever since. The grain brought into Mysore by railway during the last two months is returned as follows:—

During the Month of	Carried into		
	Bangalore.	Other Mysore Stations.	Total.
	Tons.	Tons.	Tons.
December 1876	10,570	1,344	11,914
January 1877	10,820	2,588	13,408

Mysore
Province.

The grain dealers say that this importation will continue until June (or July) so long as there is grain at Madras or anywhere else to come. They say that their only difficulty is the delay which sometimes occurs in getting consignments off from Madras by train. It seems that the Bangalore dealers despatch daily some hundreds of cart-loads of

* NOTE. — When Sir Richard Temple visited Pennnekonda, the southern division of Bellary, he found that its three taluks (250,000 population) drew the whole of their supplies from Bangalore. But a part of the Chittaldroog district gets supplied from Bellary.

grain into the districts of the interior. This grain goes into the Bangalore, Tûmkûr, and Chittaldroog districts. Parts of the Bellary* and Kolar districts also draw their supplies from Bangalore. The Mysore district lives at present on its home produce, while the districts of Hassan, Shimoga, and Kudoor are subsisting on their own produce

eked out by food imported from the western coast.

These three districts last mentioned have large highland

tracts abutting on the Western Ghâts, wherein the rainfall has been good.

6. The traders say that the local stocks will not come out into the market until the tanks fill in June or July next, and the next crop is thereby assured. Until that time the demand for imported grain will continue. Indeed, in the month of May, when the ports on the west coast are practically closed, new demand on the Bangalore source of supply may arise from districts which are now fed from the west. There are excellent bridged roads all over the country, and there is abundance of carts and draught cattle, so that supplies can be carried to whatever tracts require and can pay for them.

7. So far as the facts can be ascertained tracts containing $2\frac{3}{4}$ millions of people are now drawing grain from the railway between Bangalore and the eastern border of Mysore; probably nearly two-thirds of this population may be consuming old stocks, and thus perhaps 900,000 people may require imported grain. An import of 13,000 tons a month would support this population, and the railway is already doing more than this. But this calculation would show that Mysore will continue to draw grain largely from Madras by railway up to an average of about 430 tons daily. So that the Mysore demand upon the powers of the railway is and will remain even larger than was supposed at the time when the proposal for doubling the Madras Railway to Arconum was considered and was recommended by Sir Richard Temple.

8. The Madras Government desired Sir Richard Temple to ascertain whether Bangalore could not draw some of its supplies from the port of Negapatam *viâ* the Southern Railway; and they stated that freights from Calcutta to Negapatam were the same as to Madras, while the grain rates on the Southern Railway had been purposely lowered, so as to make it as cheap for Bangalore dealers to import by Negapatam as by Madras. The dealers, when questioned, replied that they had not heard of the reduction of the railway freight rates by Negapatam, that they had correspondents at Madras, but not at the southern ports, and that there was no great imported store at Negapatam for them to draw upon as there was at Madras. They admitted, however, that if it were demonstrably cheaper, and as speedy to get grain *viâ* Negapatam, that route would no doubt be taken.

9. Prices of grain are easier than they were; thus at Bangalore the prices have ranged:—

	Number of Seers sold for One Rupee.		
	Common Rice.	Râgi.	Cholum or Jowâri.
Last fortnight of December -	6 $\frac{1}{4}$	7 $\frac{1}{2}$	7
First fortnight of January -	6 $\frac{1}{4}$	8 $\frac{1}{4}$	8 $\frac{3}{4}$
Second fortnight of January -	7	9 $\frac{1}{2}$	10 $\frac{1}{4}$

The prices in the interior of the affected districts, for instance, in Tûmkûr and Chittaldroog, range from 10 to 15 per cent. dearer. In the Kolar district, through which the railway passes, prices are much the same as in Bangalore.

10. The memorandum on Kolar shows that in this district a large number of relief works are ready, and that many of these works are actually open. In the Bangalore district, as also in Tûmkûr and Chittaldroog districts, relief works are open; and the Chief Commissioner has now issued orders that relief works shall not be stopped in tracts where they are really needed by reason of the temporary failure of money allotments. All the work is done at ordinary piece-work rates, and the officers of the Engineering

Department co-operate most fully with the civil officers in carrying out relief works. The relief works in progress are mainly tanks, on which so much work has to be done all over the country before the many chains of irrigation tanks are all brought up to the required standard of completeness. All the work, therefore, that is being done is undoubtedly good and useful work. Mysore Province.

11. Sir Richard Temple inspected the gangs on two great works near Bangalore, namely, the waterworks tank and the Dharmboody tank. One, if not both, of these works would be undertaken and pressed forward in ordinary years. Among the thousands of labourers on these two works Sir Richard Temple did not detect any persons who seemed to be in a reduced physical condition, though he saw considerable numbers of men and women who appeared well able to take care of themselves without State aid. Sir Richard Temple also inspected several gangs on large and small works in the interior of the Bangalore and Kolar districts. On a tank near Doodha Ballapore, in the Bangalore district, he observed several men who were in a very reduced physical condition; and he found a very few cases of the same kind in a gang at Begapilly in the Kolar district. In most of these cases it turned out that the labourer was the only bread-winner for a family of six or eight persons, and so he was unable to earn enough to keep his relations alive and also to maintain himself in a fit condition for hard labour. Such cases seem to show that the village relief organisation should be worked up so as to find out and relieve very destitute families of this kind. Unless such village relief be promptly set to work, there is risk that individuals belonging to such families may perish.

12. No single large relief work, on which several thousands could be employed, has yet been sanctioned in Mysore. So long as good useful work on irrigation tanks is being done at piece-work rates, perhaps it may not be necessary to begin any large work. But if hereafter very large bodies of people should require relief employment, the Mysore Government has ready two excellent schemes, if its means allow of its embarking upon either of them. These schemes are, firstly, the railway from Bangalore to Mysore (84 miles) which has been surveyed, aligned, and for which the project is in every respect ready. The line, however, does not pass through the worst famine tracts; but the railway would be a very great boon to the province. The second scheme, which has also been thoroughly prepared, is the Valase reservoir in the Chittaldroog district, which would cost 15 lakhs of rupees and irrigate 50,000 acres. If, therefore, large works are required, the Mysore Government has them ready for immediate commencement.

13. Outdoor relief in the shape of cooked food (ragi pudding and a little curried vegetable) is being given to about 30,000 persons throughout the province. Sir Richard Temple visited some of these relief houses in Bangalore, and another at Bagapally in Kolar. For the most part the paupers seemed to be quite fit recipients of charitable relief. At the Bangalore relief house were some few cases, principally travellers, in which hunger must have caused severe suffering. When the system of rural and village relief is in working order, such cases will probably not recur. Sir Richard Temple suggested that at large centres like Bangalore, Doodha Ballapore, Kolar, and at the taluk head-quarters indoor relief should be given at relief camps on the Madras system. The many chuttrums (serais) on the roads would probably serve the purpose without building special sheds. Hereafter, when distress becomes keener, it may be necessary to have a relief house in every hooblee (subdivision of a taluk) throughout the worst parts of the severely affected districts.

14. The Chief Commissioner has issued orders that all village officials shall relieve at the Government expense, and bring to the nearest relief officers, any person, whether a resident or a wayfarer, who may be in dangerous distress. With the careful supervision which will, under Mr. Saunders' orders, be given to this matter, the effective organisation of village relief will doubtless be soon accomplished.

15. It does not seem probable that there will be serious dearth of drinking water in the Mysore province, unless such difficulty should occur in Bangalore itself. For the plough and draught cattle also there is not much apprehension, provided the usual rains come in April and May. Some mortality from want of fodder has already occurred, and much more must, it is feared, occur among the poorer sorts of cattle.

16. In consideration of the extreme gravity of the scarcity and of the fact that the present is the second consecutive year of failure of crops, the Chief Commissioner has promised remission of eight annas (one half) of the "wet" assessment, and six annas (three eighths) of the "dry" assessment to those ryots whose crops have wholly failed.

MEMORANDUM respecting the Kolar district of Mysore.

Kolar
District
(Mysore).

When Sir Richard Temple was at Mudanpally, a subdivision of Cuddapah, on the 1st and 2nd February, he learnt that one of the roads thence to Bangalore lay through Kolar. As this is considered one of the most distressed districts of Mysore, save only Tûmkûr and Chittaldroog, he desired that its condition and the character of relief there should be ascertained on the spot. At the same time Sir Richard Temple had engaged to meet certain English officers and native gentlemen of North Arcot on the road to Gudiatum, which passes through British territory only. He therefore sent me, his Secretary, by way of Kolar to confer with the district officers there. I met on the road the Amildar (tahsildar) of Sreenarasapurum. At Kolar, Mr. B. Krishna Iengar, C.S.I., who has been Deputy Commissioner of Kolar for twelve years, showed me over the nearer relief works, and gave me every information in his power. He introduced me also to the Amildar and the medical officer of Kolar.

2. The Kolar district contains an area of 2,500 square miles and a population of 600,000. In physical features, in manner of agriculture, and in condition of its people it resembles very closely the upland (plateau) taluks of Mudanapally (South Cuddapah), and Palmonier or Punganoor (North Arcot). The elevation of the plateau is the same; there are the same granite hills and rocky gorges, and the same plains with a soil of decomposed granite schists. Kolar, however, grows more exclusively ragi than do the two border British districts. Kolar grows ragi as a dry crop, and produces very little cholum (jowari). Kolar abounds in tanks, every one of which is rain-fed, and is consequently dry this year. The Madras Railway traverses the south of the district, which is supplied with abundance of good metalled and bridged roads.

3. The average rainfall of Kolar is about 30 inches. The harvest of 1874 was on the whole good. Last year (1875) the rainfall was short (15 inches only), and the yield was estimated at six annas (more than one third of an ordinary harvest). But this season (1876-77) the rainfall has been only $10\frac{1}{2}$ inches; the tanks are all dry. The total yield of the district for the current year is estimated at only two annas (one-eighth of an ordinary crop); in some tracts, for instance Sreenawasoorum, the yield is perhaps only one anna; but the irrigated parts in the south bring the total average up to two annas. Kolar generally produces much more ragi, which is its * staple grain, than its

* NOTE.—Some cholum (jowari) is produced as an irrigated crop in the black soil taluks to the north-west. The areas under the chief food grains in ordinary years are—
Rice - - - - 46,670 acres.

Ragi and other food grains 391,814 „

population requires, and it exports largely to Bellary and to the British coast districts.

In ordinary years large stocks of ragi are kept in underground granaries ("peos"). But in 1874 the October floods got in to many of these "peos," and the grain began to spoil, consequently many holders of grain sold off all their old ragi for export, and it left the district.

And thus the people of the Kolar district entered on 1875, a year of short harvest, with comparatively small stocks, which were still further depleted by the time the failure of 1876 declared itself. Still the people of the district were still living on their old stocks up to about October last. In ordinary years the ryots of Kolar are well off; few of them are in debt. The country is entirely ryotwari, and zemindars (intermediate holders between the Government and the ryots) are unknown.

4. The grain markets at Kolar and at the chief towns are well supplied. But all the grain now exposed for sale is foreign grain, imported by railway. What stocks the richer ryots may possess are now held, and will be held till rain comes. So far as we could, we tested this by visiting some of the grain shops, and questioning the chief traders of three different castes in the town. They showed us their different kinds of grain, and said it all came by railway, the rice and pulse from Madras, and the ragi from Salem and Coimbatore. They declared that the ryots would not sell their stocks, but they were quite confident that the trade would supply all demands both of Kolar town and of outlying marts. There were plenty of carts to do the business. But they said there was fear lest the railway could not supply them quickly enough, as there was delay about getting off consignments from Madras. I told them that the doubling of the line to Arconum would mend matters in this respect.

5. Mr. B. Krishna had previously given information identical with the account given by the traders whom we questioned at their shops. He explained that each large town (kusbah) procured its own supplies from the railway, and that village dealers carried grain from the kusbahs to the weekly markets in the interior. He had, as yet, not heard that the supply had anywhere fallen short. He believed and had all along thought that private traders would supply the country, so far as the railway could enable them to do

so. At one time there was a talk of organising the country carriage for the traders, but they said such interference would only make carts more expensive, and so the proposal dropped. The price of grain at the present time is—

Kolar
District.
(Mysore).

Common rice	8 seers per rupee.
Ragi, home grown	8½ "
Ragi, foreign	10 "

The Kolar ragi is a "dry" crop, whereas Madras ragi is mostly grown on irrigated lands. The dry ragi is a harder more valuable grain than the irrigated (or "nath") species, and is easily distinguishable therefrom. Prices in the beginning of December ruled at 6 and 6½ seers. The comparative cheapness is due to the large importations from Madras, where grain is now growing much cheaper.

6. Distress first began in September, and for some months it was relieved by private charity only. In the month of November relief works were opened, and at the present time 382 different works, estimated to cost Rs. 1,30,000, are either open or ready to be opened, as soon as relief is really required. Only two out of all the relief works proposed by the Deputy Commissioner are road works. The rest are tanks or irrigation works of some kind. These works are spread over all the ten taluks of the district. On them are now employed 8,437 relief labourers, besides about 3,000 persons who are employed under the executive engineer on the ordinary irrigation and road works of the district. The Deputy Commissioner anticipates that if good rain falls as usual in March and April, then the largest number of relief labourers on his hands at one time will not exceed 12,000 or 15,000 in all. If the spring rains should be withheld, matters will become much more serious.

7. All the relief works, with one exception to be noticed hereafter, are done and paid for on the piece-work system. It almost all consists of earth-work, chiefly on the repair and deepening of tanks. The work is done under the ordinary revenue staff, which consists of—

- (1.) The Amildar and his establishment of clerks and gomashtras for the whole tahsil (or taluk).
- (2.) The Sheikdar, who presides over a hooblee, or subdivision of a tahsil, containing about seven to ten thousand persons. The Sheikdar gets a salary of Rs. 10 to Rs. 20 a month according to his grade.
- (3.) The Patel, who is the head ryot of the village or cluster of small villages, and has to help him the "shanbog" or village accountant.

The responsibility of a patel in regard to a relief work varies according to the size of the work, its distance from paid supervision, and the respectability of the patel. A head cooly on 3 annas a day, who can keep account, is allowed to each patel, while the shanbog is employed on revenue work. There is one head cooly, who can write and read, on 3 to 4 annas, over every fifty labourers. The head cooly measures the work daily, and payment is made according to the work done, either by the patel or by the sheikdar, or by a tahsil officer who goes out for the purpose. The rate of piece-work varies with the hardness of the ground and height of lift. Labourers are required to bring their own tools. Labourers of the Wuddah caste, who do the stone facing for the tank banks (bunds), bring their own little stone carts. The rates for earth-work yield about 2 annas a day to an adult male who works hard. The Wuddahs who work in stone earn a little more. The Deputy Commissioner said that the piece-work system was well known to all the people, who in ordinary years repair their tanks on that system, and the people would at once detect and complain of any attempt of a head cooly to make short payments for the work done.

8. On a certain work in Kolar town the Deputy Commissioner was obliged, by the circumstances of the work, to pay daily labour, and then he reduced the daily wages to 1½ anna a day. There was some complaint at first that the rate was cruelly low. But he adhered to his decision; the people worked on, and when a part of it was done and he was able to measure it up roughly, he found that it had been cheaply done. The relief labourers whom I saw to-day on this particular work appeared to be sufficiently well nourished. But I did not see very many of them, as to-day is a festival.

9. Something had been said at Mudanapally about the undesirability of tank work for the employment of relief labour, and it had been said that the tanks were managed by the engineer department, and that they could not be touched without engineering guidance. The Deputy Commissioner of Kolar, Mr. B. Krishna Iengar, from the first preferred tank work to any other relief work. He said that all over the country there were tanks which wanted repair or which had been breached in former years; he urged that their repairs could be done by task-work and without engineering supervision. If

Kolar
District.
(Mysore).

he heightened the bund (bank) he widened and occasionally heightened the escape-weir (calingula), and in some cases he put in an extra irrigating sluice (tooboo) to carry water off to higher lands from the heightened level of the tank. He urged that by deepening a tank he held more water in it, and so made the supply for the old "ayakat" (irrigable area) more secure. Wherever he deepened a tank, he strengthened the bank (bund); and in some cases he took off and relaid the boulders which rivet the sloped water-face of the bund (bank). If he had water left in the tank, then he used it to puddle the face of the bank; but if not, he was obliged to forego puddling, as it cost* him so much to carry the water to the bank.

*NOTE.—I observe that in his relief works Mr. B. K. Iengar foregoes puddling, and tamping or consolidating metal, as such work would greatly add to the cost of his relief. He looks forward to doing this in the rainy weather from ordinary funds, when water will be everywhere available.

10. I visited a large tank which had been breached many years ago, and had since been unused. This tank, distant 3 or 4 miles from Kolar, was the first big work undertaken near Kolar. Save in Kolar town no other relief work was opened within six miles. Rs. 3,000 have already been spent upon it, and Rs. 1,500 more will have to be spent. It will irrigate about 250 acres of now uncultivated land. The bank is of earth, part of the front is puddled, and it is riveted with carefully packed boulders on a slope of one in one and a half. A new high-level irrigating sluice has been put in, and the old low-level sluice is being repaired. The waste weir (calingula) is being widened, as the tank bank is somewhat higher than before. I could see all the places whence the earth, paid for by measurement, was taken out. Out of the 800 labourers usually on the tank, only about 50 were at work to-day, because it was a festival. And the Deputy Commissioner explained that the workpeople were not obliged to come, but if they did no

*NOTE.—Both at Kolar and in Bangalore the baskets used by the women for carrying earth on relief works seemed about double the size of the baskets used on relief works I have recently seen in British districts.

C. B.

work of course they got no pay. We came back from the tank by a new road 19 miles long, which had been begun in better times by the neighbouring ryots at their own expense, and which is now being finished as a relief work. I saw that the earth-work on this road also was being paid at piece-work* rates. The masonry culverts were charged against the ordinary maintenance grant from local funds.

11. Gratuitous relief is being given at the Government expense at ten places. Cooked food, one meal of (half a seer) ragi, with a spoonful of pulse soup, is given to all but high caste recipients, who are allowed to take away uncooked food. In Kolar town 354 persons are being thus relieved daily. At the nine relief houses in the interior an average of 1,238 persons daily are receiving a meal of cooked food. From such persons no work is at present exacted. They take their meal and go to their homes. I visited the Kolar relief house to-day. About 200 persons were there. All the people were infirm, sickly, or else quite young children. They seemed to be fit recipients for relief. None of them bore on their persons marks of emaciation, except two or three children, who had or were just recovering from small-pox. Up to the month of December the relief in Kolar was paid for by private charity. The Hindu managers never sent any applicants away empty, and so the numbers relieved were much larger than they are now. Now that the gratuitous relief is charged to the Government, applicants are sifted before a ticket for relief is given them.

12. Seeing that so little was spent on relief in this district, compared to the adjoining subdivisions of Pennekonda and Mudanapally, though the population is about the same—600,000 in each case—I made particular inquiries whether the Deputy Commissioner and his officers thought that enough relief was given. The amildar of Sreemwaspoorum, whom I just met, the Deputy Commissioner, and the Kolar amildar seem to be all very

NOTE.—I have since seen in Bangalore Mr. S. Venkut Verada Iengar, who was in charge of Kolar district during December and January, while Mr. B. Krishna Iengar was away. He too expresses full confidence that people did not die of starvation during those months. Colonel Pearse, Commissioner of the division, also endorses the opinions expressed on this matter by his subordinates, the Deputy Commissioners of Kolar.

C. B.

5th February 1877.

revenue collections are slack.

confident that there are no deaths from starvation, and that the people who do not come to the works or to the relief houses are getting along somehow. Every patel (village headman) and shanbog (village accountant) in the district has received clear orders to relieve any person who may be in danger of starving within their jurisdictions, and to send the bill in to the amildar. As yet no patel in the Kolar taluk has sent in any such bill, though each amildar has an allotment of money to meet such bills. No funds have been placed with the patels for the defrayal of charges of this kind, and the patels just at present do not get their full incomes now that the land It seems that there is need for special steps to ensure and

supervise the fulfilment of the orders given to the patels on this subject, or else people may be left unrelieved and may die in remote villages.

13. Occasionally the Deputy Commissioner has heard allegations of deaths caused in part by hunger; for instance, two people who died in the dispensary were said to have been reduced by want. Now that cholera is about in the district sudden deaths occur, and they are put down sometimes to cholera and sometimes to hunger. I called on Miss Anstey, a lady missionary, who speaks the Canarese language very well, and takes the closest interest in the people. She said that stories had reached her of deaths from starvation; but she only returned to Kolar 10 days ago, and no such cases had come under her own notice. She believed, however, that scarcity of food must have accelerated some deaths in a time like this.

14. I am particular about this, because the scale of expenditure in Kolar contrasts strongly with that in the adjoining taluks of Bellary and Cuddapah, and I wished to exhaust possible sources of information as to the sufficiency of Kolar relief measures.

* NOTE.—I heard incidentally from the lady missionary, Miss Anstey, mention of the Deputy Commissioner's private charity, and I then, with difficulty, extracted from him, as bearing on this point, that his cash subscriptions to relief houses amount to Rs. 325 a month, besides the cooked food he distributes to mendicants at his own house every evening. His salary is Rs. 1,300 a month.—C. B.

The Deputy Commissioner has been twelve years in command of this district; he knows the people, they know him, he is their fellow-countryman, and is accessible to them at all times; personally he is kind and charitable.* He says that if there were starvation, he believes he would be the first to hear of it. He has given strict orders and makes constant inquiries on the matter. He is aware that many of his district people (perhaps 3,000 in all) go

over to works in Bellary and Mudanapally. The authorities of those districts have written to him; and he has explained that the people have works open close to their homes; but they not unnaturally prefer a fair daily wage and light work to piece-work pay only. If piece-work were exacted over the border, then he believes that none of the Kolar people would trouble the Bellary or Mudanapally relief works.

15. In respect of gratuitous relief I could see that a good deal of selection is now exercised. Outside the missionary's door this morning I saw some people asking alms; and on inquiry I ascertained that two out of these had been refused admission to the relief kitchen, because they had relatives competent to support them. I saw the same sifting process going on outside the relief kitchen. Possibly a Native Collector of 12 years' experience, acting through subordinates whom he knows and trusts, can check indiscriminate relief better than a European officer could do. And my impression, formed on what I have seen and what I have ascertained by careful questioning, is, that the restrictions on relief exercised in the Kolar district are not excessive or dangerous to the safety of the people; although I fear that here, as elsewhere, one or two occasional deaths, caused indirectly or partly by hunger, may have occurred.

16. The Deputy Commissioner showed me a letter he had received this morning from Major Gompertz, Deputy Inspector-General of Police, who is at present on tour in the north of the Kolar district. The purport of that letter (dated 2nd February) is, that the people there (taluks Gudibunder and Bagapilly) "are better off" than further south towards Bangalore, and "though many are suffering from scarcity, yet there are no signs of absolute famine." He writes further: "I have noticed that only a few appear emaciated, though many I am told are reduced to mixing devdari leaf in their food." This testimony from an officer outside the department is satisfactory. The devdari leaf, the Deputy Commissioner tells me, is eaten as a vegetable by many classes, and Mr. B. Krishna Iengar at times eats it himself.

17. The Deputy Commissioner tells me that the Chief Commissioner has decided to remit one half of the land revenue on "wet" crop lands in cases where the water-supply has failed, and to remit $\frac{2}{3}$ (six annas in the rupee) of land revenue on "dry" crop lands. He explains that never before in the history of Mysore, so far as his knowledge goes, has remission been granted on "dry" lands. But this year is the second bad season the people have had one after another; this time the failure has been grievous beyond all memory or expectation, and so the grant of a partial remission on dry crop land is a fair concession. The abkari (toddy excise) revenue contractors have had no remission granted to them, but the receipts of still head duty on spirit has decreased somewhat.

18. The water-supply in tanks has failed, and many wells also are failing. But in all tanks which are being improved by relief labour the Deputy Commissioner digs a hole down to some spring, so as to keep drinking water for the neighbouring cattle and people. He is also deepening and clearing by relief labour many wells and bowdis (large cistern-shaped wells) near to public road. He does not expect there will be actual dearth of water.

Kolar
District
(Mysore).

Kolar
District.
(Mysore).

19. But about the future of the cattle there is cause for anxiety. Many must have died, and the Deputy Commissioner is aware that ryots have sold away good cattle for merely nominal prices. The Chief Commissioner has opened the reserved forests and the ryots are allowed to take away grass thence free. As yet these forests have not been opened to cattle for grazing. The Deputy Commissioner thinks that there may be some little fodder left, rági straw, cholum straw (kurbi), and jungle grass; for the ryots will not yet take the trouble to prepare prickly pear for their cattle. Yet the Deputy Commissioner, his locum tenens in December last, and his assistant have each of them in different parts of the district demonstrated to the people by experiment on a large scale that the prickly pear, when properly prepared, is eaten by and supports cattle. The Kolar taluk, the Malwagul taluk, and other parts of the district abound with prickly pear; so there is an important resource still available for the cattle.

No. 86.

Nos. 87. 115. XXXV.—MINUTE by SIR RICHARD TEMPLE.

Bellary, 14th February 1877.

Mysore re-
lief

In forwarding two memoranda of facts ascertained on the spot regarding the famine in the Mysore province I desire to acknowledge cordially the courtesy with which the Chief Commissioner of Mysore and his officers afforded me valuable information which had an important bearing on the work of my mission to the Madras Presidency.

2. I think there can be no doubt that the relief operations in Mysore have been much more economically conducted than in the neighbouring districts of Madras. The carefulness exercised in this respect is very creditable to the local authorities in Mysore.

3. At the same time it appears to me most important that there should be a house-to-house visitation throughout the more severely affected tracts, so that cases of severe distress may be found out, and may receive timely succour. The existing organisation of village officials, supervised by salaried servants of Government (the sheikdar in his hobli and the amildar in his taluk) is the best that could be desired for effectively carrying out systematic village relief. The Chief Commissioner, moreover, is ready to strengthen the supervising staff where additional help may be absolutely needed. An active and well-directed system of village relief is especially necessary to prevent occasional cases of disaster in districts where, as in the Mysore province, economy in relief expenditure has been carefully practised from the beginning.

4. I communicated unreservedly to the district and other superior officers my views regarding the situation in the tracts which I visited, and the result of my experience of famine affairs in other parts of India. All the civil and engineering officers of Mysore whom I met evinced a humane zeal to save human life and to mitigate the present calamity, together with a careful regard to the financial interests of the Government under which they are serving.

Nos. 88. 115.

No. 87.

No. 65, dated Bellary, 14th February 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE.

Forwarding
Nos. 84-6.

By direction of Sir Richard Temple I have the honour to submit copy of a minute recorded by him, together with two memoranda regarding the scarcity in the province of Mysore. Sir Richard Temple desires to tender his cordial acknowledgments for the courteous reception he received, and for the valuable information he gained, while in the territories of Mysore.

2. A copy of Sir Richard Temple's minute, regarding the effective organisation of village relief, is also forwarded in case the Chief Commissioner should wish to peruse it. The suggestions it contains are believed to be equally applicable to Mysore.

No. 88.

No. 66, dated Bellary, 14th February 1877.

No. 115.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE
GOVERNMENT OF MADRAS.

His Grace the Governor of Madras was pleased to express to Sir Richard Temple a view that it would be advantageous if the Bangalore grain demand could be supplied, partly at any rate, by Negapatam and the Southern Railway, in order that the pressure on the Madras port and the eastern sections of the Madras Railway might be relieved. Grain supply.

2. Sir Richard Temple inquired into the matter at a conference held with the Bangalore traders in presence of the Chief Commissioner and his principal officers. The results of that inquiry will be found embodied in the enclosed extracts (paragraphs 5 to 8) from a memorandum of the facts ascertained by Sir Richard Temple regarding the scarcity in Mysore. No. 84.

No. 89.

MEMORANDUM by Capt. W. S. S. BISSET, R.E., on special duty, of the Proceedings of a Meeting held at Bombay on the 9th February 1877, between Colonel H. F. HANCOCK, R.E., Consulting Engineer, Mr. HENRY CONDER, Traffic Manager, Great Indian Peninsula Railway, and himself. Nos. 90. 115.

Bellary, 14th February 1877.

Captain Bisset submitted to the meeting extracts from the books at Raichore, showing that, although Mr. Conder had been good enough to order increased attention to the arrangement of trains sent into Raichore, there had been no change for the better up to the 7th February. Railway grain traffic arrangements.

Captain Bisset mentioned further, that in his opinion this appeared to be mainly due to the want of free communication between the two local traffic officers at Raichore; but that at a meeting at Raichore on the 6th February, arrangements for mutual accommodation had been made, as a result of which it was to be hoped that the working of the traffic at Raichore will be much simplified.

Mr. Conder was good enough to confirm the following portions of the arrangements come to at Raichore on the 6th, and to state that he had recently renewed his orders for increased attention to the following points:—

- (1.) To place all Raichore waggons together;
- (2.) To put all waggons for transshipment at Raichore together;
- (3.) To deliver both these classes of waggons at Raichore by a separate train when this is possible.

2. Captain Bisset then submitted a fourth proposal, viz.:—

That the waggons for the Madras Railway should be arranged before delivery at Raichore as much as possible in station order, so that the shunting at Raichore might be reduced as much as possible, and the trains forwarded after simply changing engines, or after a few shunts.

Mr. Conder represented that this involved his Company in work which fell properly on the junction station at Raichore; and on this being allowed as correct, he replied to a request for its performance as a favour, that he doubted the necessity of the work, that he could not undertake to detain trains at roadside stations for such work, but that he would endeavour to obtain attention to the arrangement of waggons in station order as far as was possible without additional shunting.

He further promised to consider the possibility of his doing the work thoroughly at one of the larger Great Indian Peninsula Railway stations on the condition that his Company were paid the cost of the shunting.

3. The Traffic Manager of the Madras Railway proposes to place one of his assistants at Raichore during this pressure, and to await further experience before making any proposals involving payment to the Great Indian Peninsula Railway. But if after experiencing the benefits of the improvements already agreed to, the Madras Railway Company find it impossible to pass the increased traffic through Raichore without this further assistance, it will be necessary for them to ask for this further assistance, and for the agents of the railways to arrange the terms under which the work shall be done.

Mr. LeMesurier was kind enough to assure me that he would consent to any such proposals for facilitating the delivery of grain to the Madras Presidency.

Railway
grain traffic
arrange-
ments.

Loading of cotton waggons with
through grain.

The numbers averaged only

NOTE.—The arrivals of these
waggons on the 8th, 9th, and 10th
February were afterwards found to
be 4, 14, and 16 respectively.

Mr. Conder mentioned having recently repeated his orders to avoid loading cotton waggons for stations beyond Raichore, and he assured the meeting that under these orders the loading of such waggons would be practically stopped.

5. Captain Bisset represented that the Madras Railway should be trusted to work from Raichore up to its full powers with through waggons only, and that if it does this there can be little or no room for grain re-booked at Raichore.

Mr. Conder stated that during the recent cessation of through booking every effort was made to discourage the booking of grain to Raichore, and that it was explained to merchants offering grain for conveyance to Raichore, that the cessation of through booking was only temporary, and that by waiting a few days they could book their grain direct to its final destination.

The grain booked to Raichore has been during the last few days unloaded in the new sidings, which are found very convenient for this purpose.

It is to be hoped that the local booking may not continue heavy, as it causes increased work to the staff at Raichore, besides involving longer detentions of the rolling stock.

6. Captain Bisset pointed out that, after the last suspension of through booking, there had been an interval of two days (27th and 28th January) during which the Madras Railway had not had full work.

Mr. Conder stated that he had never suspended the transmission of through-booked waggons from the East Indian Railway or other railways beyond his own line; that he had constantly in view a continuous supply of waggons to Raichore, and that no fears need be entertained of any short delivery at present.

Mr. Conder further intimated that he had resumed through booking for the Madras Railway on the 8th February; that the demands for carriage were not now so pressing; that the accumulations at the stations were now much reduced, those at Nagpore, Moortizapore, and Akola being the only ones of any magnitude; but that he saw no reason for supposing that the supply would not keep up to 150 waggons a day for some time yet.

7. Captain Bisset submitted a memorandum showing the increased work done by the Madras Railway at Raichore, and expressed an opinion that further discussion on the question of limitation was at present unnecessary, as with the additional engines so

Limitation of despatches of through
waggons for Raichore.

soon to be placed at the service of the Madras Railway, their carrying powers would probably be fully equal to removing all the waggons delivered by the Great Indian Peninsula Railway.

Colonel Hancock, however, made some inquiries for his own satisfaction on this point.

Mr. Conder reminded the meeting that he had not pressed more waggons into Raichore than the Madras Railway Company had asked to be sent there; that in loading up all the waggons he had at his disposal he had acted according to his usual practice; and that, on finding that there were no more waggons to spare, and no accommodation for more at the stations on the road, he had suspended further booking to the Madras Railway.

Mr. Conder assured the meeting that, according to his experience, the delays or irregularities which Captain Bisset seemed to fear from very heavy despatches followed by temporary suspensions of through booking are not more objectionable to the dealers than any attempt to limit the despatches would be.

Captain Bisset mentioned the following reasons for his belief that as regular a despatch should be maintained as possible:—

- (1.) Rolling stock would be economised.
- (2.) The train service would be more regular.

- (3.) Some approach to regularity would be attained in the interval between the consignment of goods and their delivery at their destination.
- (4.) Traders could make all their arrangements for supplies with much more certainty and economy if such regularity could be attained.

Railway
grain traffic
arrange-
ments.

There was no conclusion arrived at on the subject, except that with a smaller amount of rolling stock the present mode of working would hardly be practicable.

Colonel Hancock considered that in their effect upon private trade, the merits of the different modes of dealing with the traffic were almost entirely a matter of opinion, and he remarked that it was evident that the difficulties from detention of waggons and from any irregularity of the train service fell entirely on the Great Indian Peninsula Railway Company, and that it might be assumed that Mr. Conder would not incur these difficulties if he were not thoroughly convinced of the advantages of his present practice.

8. With reference to the question of responsibility for the accumulations caused by this mode of working, Captain Bisset represented that the Madras Railway Company was still very short of engines, and that it was impossible to consider that Company altogether responsible for the failure to keep in constant circulation all the waggons which might by an effort on the part of its more fully-stocked neighbour be poured down upon the junction station, and that in his opinion the best interests of both railways and also of the grain traffic to the Madras districts would be best served by mutual accommodation and by the adaptation of the strength of the one railway to the weakness of the other.

Both Colonel Hancock and Mr. Conder stated that no complaint was made on their part of the present working of the Madras Railway, but that they believed that a stimulus to more vigorous working had certainly been given by the knowledge that so many waggons were lying under load for the Madras Railway.

9. The meeting closed with assurances of the strongest desire on the part of the Bombay railway authorities to do all in their power to forward the further development of the grain traffic, and with regrets that somewhat different views as to the method of doing this had apparently been interpreted as obstacles to the attainment of this end.

10. It has been noted above that the Traffic Manager of the Madras Railway has determined to place one of his assistants at Raichore during the present pressure of work there.

The propriety of this step was urged by the Deputy Consulting Engineer, Madras, after his visit to Raichore on the 6th February. I now mention a slight loss of work on the 11th instant, which appears to me to have arisen solely from the want of that prompt intercommunication which the presence of a superior officer of the traffic department at Raichore is likely to secure.

On the 11th February a Madras Railway train, which was ordered in accordance with a definite expectation of larger arrivals of waggons from the Great Indian Peninsula Railway, had to be cancelled. This occurred within a few days after the local traffic officers had met at Raichore, and arranged in the most cordial manner for working into each other's hands.

I am confident that this occurred from want of early intimation that more waggons were wanted at Raichore, and I have only mentioned the matter in the hope of inviting continued attention to the working of Raichore station, which should, in my opinion, be left altogether to the traffic officer on the spot.

No. 90.

Nos. 68 and 69, dated Bellary, 14th February 1877.

Nos. 99. 115.

From the SECRETARY TO SIR RICHARD TEMPLE to the SECRETARIES TO THE GOVERNMENTS OF BOMBAY AND MADRAS.

By desire of Sir Richard Temple I have the honour to forward copy of a memorandum by Captain Bisset, regarding the decisions taken by the Great Indian Peninsula Traffic Manager, Mr. Conder, on certain points connected with the joint working of grain traffic over the Great Indian Peninsula and Madras Railways.

2. The Bombay railway authorities are manifestly ready and anxious to promote the smooth and rapid working of the traffic. Sir Richard Temple has ascertained from the Madras railway authorities that they are ready to do their part loyally to the best of their power. And he trusts that the harmonious working of this great traffic, which is

Railway
grain traffic
arrange-
ments.

so very important to the very lives of the people in the ceded districts, may be thoroughly maintained.

3. Sir Richard Temple will have much pleasure in bringing to the notice of the Government of India that since the 29th January there has been a regular stream of grain waggons (the average being 110 waggons* daily) of northern grain from the Great Indian Peninsula Railway into the ceded districts. It is confidently believed that the daily delivery will shortly be worked up to 150 waggons. Already the effect has been felt in the Bellary markets, where northern cholam (jowari) is now (14th February) quoted at 10 seers per rupee.

*About 660 tons.

No. 91.

No. 11,606-40, dated Bangalore, 15th February 1877.

Nos. 142.
221.

From the OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE to the CHIEF SECRETARY TO THE GOVERNMENT OF FORT ST. GEORGE.

Influx of the
distressed
from Mysore
into British
territory.

I am desired to acknowledge the receipt of your letter No. 508, of the 10th instant, in which you intimate that large numbers of people are flocking from this territory to the famine relief works and feeding houses in the Bellary and Cuddapah districts as well as to the Wynad, "in the hope of securing the means of subsistence," that efforts have been made, but without success, to eliminate these people from the works and relief houses in Bellary and Cuddapah, and that recognising "the serious risk involved in sending away to Mysore territory large numbers of distressed folk," the Madras Government have given the Collectors of those districts and Malabar instructions to make arrangements for providing relief and work for these people, with the intention of demanding that the expenditure so incurred be defrayed by the Mysore State.

2. The Chief Commissioner cannot disguise the surprise which he has felt on receiving this communication, and trusts that his Grace in Council will, on a further consideration of the circumstances which have led to the migration of a certain portion of the people in the border districts of Mysore into Her Majesty's territory, be induced to withdraw from the intention expressed in your letter.

3. It is undoubtedly true that considerable numbers have left their villages in the three districts of Chitaldroog, Tumkur, and Kolar, and that some portion of these have betaken themselves to the relief works and feeding houses in the adjoining districts, but from the inquiries that have been made the Chief Commissioner is satisfied that, so far as relates to the migration into Her Majesty's districts, the cause is to be found, not in any omission on the part of this administration to provide the people with the means of subsistence, but in the fact, which Mr. Saunders understands admits of no denial, that the system on which works and gratuitous relief have been established in the Bellary and Cuddapah districts, has proved a strong temptation to the Mysore people to seek employment and food on the easiest possible terms.

4. In this province the Chief Commissioner has, from the first, made it a rule that a light task on piece-work should be exacted from, more or less, all persons employed on relief works, while it is a matter of notoriety that in the works carried on over the frontier such persons have received a fixed daily wage, for which hitherto no equivalent labour has been exacted. As regards gratuitous relief also, operations have been, it is understood, conducted in the Madras districts on certainly a most liberal and philanthropic scale, and it is not surprising that the Mysore people should have been largely attracted by the expectations they had formed of obtaining relief on much more favourable terms than they could have obtained it on this side of the frontier.

5. Another cause which has been assigned by the district officers as contributing in some measure to the migration eastwards, has been the desire on the part of the petty ryots to evade the land revenue demand, which, after full consideration, the Chief Commissioner decided to enforce to a certain limited extent. Though the number of the kists was increased from four to seven, the payment of the first four kists has been made imperative on all those who were in a condition to pay, and the Chief Commissioner can only regard it as an unfortunate circumstance that a system of relief operations should have prevailed in the Madras districts which is calculated to defeat the efforts made to collect the revenue, as well as the earnest endeavours made by this Administration to abstain from any measures which would produce a demoralising effect on the people, and weaken their sense of self-reliance.

6. The Chief Commissioner has been unable to obtain any precise statistics on the subject, but he has ample grounds for believing that the migration from the three districts

referred to above has been chiefly in the direction of the western taluks of the province and Coorg, to which, from an early period in this season of scarcity, the people were reported to be proceeding in large numbers, accompanied by their cattle, in quest of labour on public works and on the coffee estates, and also of forage and water for their cattle. As his Grace in Council will be aware, the labour required for the coffee estates in the Wynad and elsewhere, not only during the crop-picking season, but throughout the year's operations, is ordinarily supplied from this province. Under present circumstances it is natural that the influx into the Wynad, as well as into Coorg and Manjara-bad, should have increased to some extent, and perhaps beyond the means of the employers of labour in those districts to meet the demand. In any aspect of the case it would have been inexpedient for this Government to make any attempt to check the movement, the result of which has, it is believed, so far profited the planters that they have been able to obtain labour on cheaper terms than formerly; and had any attempt been made to interfere with the labour market, Mr. Saunders feels convinced that as strong objections would have been raised to the measure as were, it will be remembered, advanced in reference to the supposed interference with the exportation of grain from the Mysore country. The contingency of having to provide for the numbers returning from the plantations was, however, foreseen, and along the whole extent of the western frontier, as well as in Coorg, and in the central parts of Mysore, new road and other works have been opened, and all practicable means taken to afford relief and work, on an extensive scale, for those who need it. From Gundlupet onwards, on the Neilgherry road and on the Manantoddy road, to the northern and eastern frontiers of the Ashtagram division, as well as from Periyapatna on the Coorg road, relief kitchens have been established at convenient distances to meet the requirements of the returning coolies, and separate officers have been already appointed to the special charge of the relief arrangements on these roads. Full information in regard to work provided has been sent to the Secretary to the Planters' Association in Wynad, and to the Commissioner of the Neilgherries, with printed notices in the vernacular, for the information of the returning coolies, of the localities where works are in progress and can be obtained.

Mysore mi-
gration.

Under these arrangements the coolies are now returning with their earnings at the rate of from 300 to 400 per diem to the province.

7. The Chief Commissioner feels assured that the Madras Government, in arriving somewhat suddenly at the conclusion stated in your letter, have acted on an erroneous assumption of facts, and there is further evidence of this in the assertion contained in your last paragraph, where you say that "the rates of wages in Mysore are understood to be the same as in this (the Madras) presidency." On this point I am to remark that though the wages earned on relief works in this province might amount to 2 annas 6 pies per diem, the rates adopted vary from 1 anna to 1 anna 4 pies per cubic yard of excavation, and it is only on works of a character that do not admit of exact test that a daily wage of 2 annas, and in some cases 2 annas 6 pies per diem is paid.

8. Under this explanation of the procedure that has been adopted in this province the Chief Commissioner trusts that his Grace in Council will see that it is impossible for him to assent to the suggestions made in paragraph 5 of your letter, and I am desired to add the advance of Rs. 500 should be made to Mr. Mahomed Ali by the Commissioner of Nundydroog to meet emergent requirements.

The Deputy Commissioners of Kolar, Tûmkûr, and Chitaldroog will instruct the Amildars of the border taluks to comply promptly with the requisitions made upon them for the purpose by the Assistant Commissioner. Those who are able-bodied should be relegated to the special or other relief works in progress, and those who are physically unable to work should be promptly admitted to the feeding kitchens, under arrangements to be made by the Deputy Commissioners and their assistants.

No. 92.

No. 11 of 1877.

FROM the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
TO the SECRETARY OF STATE FOR INDIA.

February 16, 1877.

We submit for your consideration our weekly summary of the principal matters which have engaged our attention in connexion with the famine in Madras and Bombay since the date of our last Despatch.

Forwarding
and review-
ing Sir Ri-
chard Tem-
ple's minutes.

Reviewing
Sir Richard
Temple's
minutes.

Nos. 33. 48.

2. Among the papers which we now enclose will be found minutes and memoranda by Sir Richard Temple regarding the condition of the districts of Chingleput and North Arcot in the Madras Presidency, and the expenditure which will have to be incurred for purposes of relief throughout the distressed districts in Madras.

3. The Chingleput district adjoins the town of Madras, bounding it on the north, west, and south. Its area is 2,753 square miles, and its population slightly under a million. It has had three bad seasons to contend against. The harvest in 1874 was poor. It was bad in 1875, and in the present year there has been a serious failure, the rainfall ranging from 8 to 16 inches against an average of 34 inches. The out-turn of the whole district for the present year is estimated at less than one fourth of an ordinary crop. The district, however, has the great advantage of being traversed by three railways,—the Madras Railway, the Carnatic Company's Railway from Arconum to Conjeveram, and the railway recently constructed by the Great Southern of India Railway Company from Madras to the southern districts. The local markets are consequently well supplied, and generally the prices are much the same as in Madras. At the time of Sir Richard Temple's visit 14,000 persons were employed on the relief works, and 8,000 persons were receiving gratuitous relief in the shape of cooked food. These people, however, were being gathered into relief camps, where they will be housed, fed, and put to such light work as they can do. There are also four relief camps in, and in the immediate neighbourhood of, the town of Madras, containing 10,000 pauper inmates in all, mostly immigrants from Chingleput, North Arcot, Vellore, and Cuddapah, who came to Madras to seek for work and food. It appears that many of the persons taken into these camps had been much reduced before they reached Madras; but as their strength was restored, they were draughted out upon the works. At each of the camps which Sir Richard Temple visited there were a considerable number of women and children in an emaciated and miserable condition, and some hundreds of people were being treated for diarrhoea brought on or aggravated by want of food. The death-rate among these persons was very high. The Collector does not expect to collect more than half the land revenue of the district this year, though much of the arrears due on the dry crop lands may be realised next year if the seasons are favourable. As yet the cattle had been kept alive; but a heavy mortality was expected if showers did not come within the next six weeks. In some localities there was already a difficulty about water; but it was not apprehended that there would be anywhere a complete failure of water either for man or beast. Wells were being deepened by relief labour.

No. 34.

4. While in the Chingleput district, Sir Richard Temple inspected the proposed line of the railway from Conjeveram to Chingleput. As stated in our Despatch of the 9th instant, he does not recommend that it should be taken up as a relief work. From a rough estimate furnished by Captain Bisset, he finds that the cost of the earth-works would not exceed Rs. 44,000 out of a total estimate of 13 lakhs. The amount that would be expended on relief wages is comparatively small. The line would not be of special service for relief operations; for in the part of the district through which it runs the distress is not extreme, and there are other railway lines, a good metalled road, and plenty of good carts by which the local markets are, and will continue to be, well supplied with grain. Sir Richard Temple does not consider the financial prospects of the line, should it be made, to be very good. The line runs parallel to the Palar river, the bed of which in that part of its course is very broad, and he thinks it probable that for a part of the year the traffic would be attracted to the other lines on the north and south of the river.

5. Sir Richard Temple has paid a second visit to the district of North Arcot. His first report on that district is contained in the memorandum submitted with our Despatch of the 2nd instant. He was induced to visit the district a second time, partly in consequence of his having seen in the relief camps at Madras a number of persons from the North Arcot district who had been reduced to a very deplorable condition before they came to the camps, and partly in consequence of his having heard bad accounts of the state of the district from the Inspector-General of Police. The conclusions at which he arrived were less favourable than those which he had formed on the occasion of his first visit, and he has suggested the immediate adoption of various measures of relief. In his report on this district he mentions information given to him regarding certain taluks in the South Arcot district by an American missionary, who stated that in the course of a recent tour he had seen much distress, and in some cases physical emaciation from want of food. This district has not hitherto been classed among the distressed districts. In the same report Sir Richard Temple adverts to a delay in starting certain relief works in North Arcot owing to some departmental difficulty, which, he observes, could be at once removed if a superior officer, invested with full power to direct all relief operations in all

departments, were sent down. Both these statements will doubtless have attracted the attention of the Government of Madras. It is obviously of great importance that the superior control of the expensive operations now in progress in various parts of that presidency should be rendered as effective as possible.

Reviewing
Sir Richard
Temple's
minutes.

6. Sir Richard Temple has recently visited Bangalore, and has conferred with the Chief Commissioner of Mysore on the condition of that province. He has also travelled through one of the most distressed parts of it. His detailed report has not yet reached us, but he has informed us by telegraph that the Mysore relief operations are carefully and economically conducted. He has pressed upon the Mysore authorities the need of visitation from village to village to watch distress and prevent any deaths from starvation occurring. He states that in the ceded districts and Kurnool "the well considered orders of the Madras Government for check of excessive expense are being executed fully in some respects, but slowly and imperfectly in others." He is urging the local authorities, by visiting every village throughout the country, to prevent the possibility of any lives being lost, but at the same time to strictly prevent waste and extravagance. He adds, "Condition of people fair and good, and private trade in grain extraordinarily active. Cholera has appeared in many places, but has now decreased. No sign of drinking water failing yet. Draught cattle still sustained."

Nos. 84-6

7. The orders of the Madras Government to which Sir Richard Temple alludes, are those of the 31st January, of which copies were sent to your Lordship with the Madras Despatch of the 3rd instant, and to which reference was made in the foot note to paragraph 5 of our Despatch of the 9th instant. Of these two orders, the first prescribes a reduced scale of wages similar to that recently adopted in Bombay, and the restriction of State relief to those who without it would be in danger of perishing, while at the same time it impresses upon the district officers the necessity of not relaxing their vigilant exertions to prevent loss of life from starvation. The second directs that grain wages are only to be paid so long as food is not purchasable on the spot, and that then it is to be purchased in the districts or from established local dealers after calling for tenders by public advertisement, or should the local dealers fail, by calling for tenders from a wider area. To meet any sudden emergency, and until supplies can be brought in from other sources, recourse may be temporarily had in the districts of Kurnool, Bellary, and Cuddapah to certain small reserve depôts of Government grain which were being formed in the localities most difficult of access; but resort to these depôts is absolutely forbidden except when food for the labourers or for the paupers in the feeding houses provided for the infirm and aged is unpurchasable from private dealers, and it is to cease immediately on other supplies becoming available. These orders appear to us to be unexceptionable, and we trust that they are being carefully acted on, especially in the matter of non-interference with private trade. The statement made in Sir Richard Temple's telegram, from which we have quoted, and which was despatched only yesterday from the Bellary district, to the effect that the private trade in grain is extraordinarily active, would seem to furnish very conclusive evidence that this is the case. We refer to the subject, as we are aware that there is an impression in some quarters, which we believe to be entirely unfounded, that the arrangement made by the Madras Government some months ago with a local firm for the supply of grain on account of Government has not been practically terminated.

8. In connexion with the question of reducing the rates of wages, we enclose a reference which we have received from the Government of Bombay regarding a combination among the labourers in the Sholapur district to refuse the reduced rates, and our reply. We have informed the Bombay Government that we entirely share their opinion as to the mischief of yielding to a strike on relief works attributable to combination, and that the relief wages should not be raised if the Local Government is satisfied that the rates are sufficient,—a point which must necessarily be left to its judgment. Some days ago a report appeared in one of the Bombay newspapers of numerous deaths from starvation at Sholapur, which, however, appears to have been greatly exaggerated. The Collector stated that in the town of Sholapur only one death attributable to that cause had occurred.

Nos. 62. 71.
78.

9. We also enclose a further correspondence on the subject of the grain traffic on the Great Indian Peninsula and Madras Railways with which we have been furnished by the Government of Bombay. We are glad to learn that the Madras Railway authorities expected to be in a position to forward 150 waggons from Raichore to the Madras stations by the 14th instant. As we said in our last Despatch, every exertion is apparently being made by both the railway companies to overcome the difficulties necessarily resulting from the enormously increased traffic.

Nos. 13. 19.
21. 29. 31.
32. 37. 38.
39. 40. 55.

Reviewing
Sir Richard
Temple's
minutes.

Question of
remitting or
suspending
land revenue.

10. Your Lordship will have received from the Government of Madras a copy of their letter of the 9th instant on the subject of remissions of land revenue. Before this letter reached us, we had intimated to both the Governments that the matter would be left to their discretion. We have now only to observe that we consider that the Madras Government have shown good reasons for the opinion which they strongly hold, that in ryotwari districts it would, as a general rule, be inexpedient to substitute suspensions for remissions of revenue, especially in the case of a season so disastrous as the present. We do not overlook the statement which appears to have been made to Sir Richard Temple by the Collector of Chingleput, and to which we have already alluded, that much of the arrears due on the dry crop lands may be realised next year, if the seasons are favourable. It is possible that there may be local circumstances which justify this expectation as regards the particular district in question; and if so, the Madras Government will doubtless act on our suggestion, that "the balances should be held in suspense" in cases in which it appears likely that the landholders will, without undue pressure, "be able to pay the revenue in arrear during the next season." We feel, however, that the question is one which must be treated with the greatest caution, and which must be left to the judgment of the Local Governments and their officers.

11. The weekly return of persons employed on the relief works in the Madras Presidency is incomplete, the returns from Nellore and Malabar not having been received. Taking for these districts the figures of last week, the Madras returns show a further diminution of 32,204 persons, the aggregate number on the works being 876,206 against 908,410, the number for the previous week. The number of persons receiving gratuitous relief had also diminished by upwards of 7,000. The total is 53,287 against 60,402, the number for last week. In Bombay, also, there was a considerable decrease of the numbers on the relief works, which is said to be mainly due to a stand made by the people of Sholapur against the orders for the reduction of wages. Exclusive of 7,136 hillmen and immigrants employed in Canara and Ratnagiri, the number on relief works was 249,158 against 290,537, the number for last week. The numbers receiving gratuitous relief in the Bombay districts, not including Dharwar, for which there were no returns, was 4,968.

Nos. 51. 52.

12. Sir Richard Temple, in his revised forecast for the Madras Presidency, estimates the State expenditure on the relief of the present famine at Rs. 2,92,00,000 (2,920,000/.) of which Rs. 67,49,000 (674,900/.) have already been spent. His estimate is based on the assumption that the checks on expenditure recently ordered will be strictly enforced, and also that there will not be a failure of the usual spring showers. In our Despatch of the 2nd instant we stated that Sir Richard Temple's revised estimate of the famine expenditure in Bombay amounted to 126 lakhs. The aggregate expenditure for the two presidencies would thus be 418 lakhs (4,180,000/.). In regard to the probable loss of revenue by remissions, we have not at present the means of forming any definite estimate. Some time ago it was estimated at 66 lakhs for Bombay and 117 lakhs for Madras (see our Despatch of the 12th January), or in all 183 lakhs, which, added to the expenditure, would give a total loss from the famine of 601 lakhs.

13. According to the latest returns prices were falling in most of the Madras districts, owing, doubtless, to the large importations. In Bombay there was but little change in this respect. Cholera was more or less prevalent throughout the distressed districts of Madras, though apparently decreasing in some of them. In the southern districts of Bombay, especially in Dharwar, this disease was very prevalent. On the general aspect of the situation we have nothing to add to what was said in our last Despatch.

We have, &c.

(Signed) LYTTON.
H. W. NORMAN.
A. HOBHOUSE.
E. C. BAYLEY.
ALEX. J. ARBUTHNOT.
A. CLARKE.
J. STRACHEY.

No. 115.

XXXVI.—MINUTE by SIR RICHARD TEMPLE, recommending commencement of earthwork of line from Bellary to Hooblee.

The pro-
posed Kar-
war-Bellary
Railway.

Bellary, 16th February 1877.

The Government was pleased to direct me to report, after communication with the Madras Government, upon the proposal to commence the earth-work of the Karwar and

Bellary Railway as a relief work. At Bellary, therefore, on the 12th current, I conferred with his Grace the Governor of Madras upon the subject. Colonel Hancock, as representing the Government of Bombay, was present at the conference, having been deputed thither by his Excellency Sir Philip Wodehouse. Mr. J. H. Master, Collector of Bellary, Colonel Mullins, Chief Engineer to the Government of Madras, and Colonel Shaw-Stewart, Consulting Engineer for Railways, were also present.

The proposed Karwar-Bellary Railway.

2. I caused the salient points of the Bellary and Karwar Railway scheme, as far as they concerned relief work, to be put together in the appended memorandum. And after the conclusion of the conference I despatched to the Government of India a telegram to the effect that, in consideration of financial exigencies and the claims of other proposed lines I was adverse to undertaking at present the Karwar and Bellary Railway. At the same time I recommended that as difficulty existed in finding suitable work for relief labourers in the Bellary (and, perhaps, in the) Dharwar and Kaladgi districts, the Madras and Bombay Governments might be authorised to employ relief labourers in making the earth-work of the line from Bellary as far as Hubli in the Dharwar district. I suggested further that the cost of the land taken up for this railway should be charged to the Local Governments, and that the Imperial Government shall be held in no way pledged to the ultimate construction of the line. I added that the Madras Government concurred in my view, and that the Government of Bombay would probably concur also.

3. I desire now briefly to place on record my reasons for submitting this recommendation, and I would premise that when I had the honour of being a member of the Government of India, it was my duty to consider this and other railway projects, and I have always held that railways in India should be undertaken on political and military grounds quite as much as on purely commercial considerations.

4. I am adverse to undertaking at present the Karwar and Bellary Railway, because—

Firstly.—The finances of the country can afford to take up only a limited number of new State railways at a time. There are already a number of lines to which the Government is more or less committed; such, for instance, as the Nagpore and Chutteesgurrh line, the Western Rajputana Railway, the Lahore and Peshawur line, the Northern Bengal extensions, and the North Behar lines. None of these, in my judgment, ought to be postponed to the Karwar and Bellary line.

Secondly.—If the finances can afford one or more additional railways in the Bombay Presidency, then I think that the line from Dhond to Munmar, a line from Dhond (or some other point on the Great Indian Peninsula Railway) to Sattara and onwards into the Southern Mahratta country, and a line from some point in Guzerat into the Kattywar country, are all politically and generally more important than the Karwar and Bellary line.

Thirdly.—There seems much doubt about the capabilities of, and the need for, future expenditure on the Karwar harbour, and unless the harbour be accessible during the monsoon, it would appear that much of the Dharwar and Bellary cotton may still take ship at Madras or Bombay.

5. Although I am, for these reasons, adverse to undertaking for the present the Karwar Railway, yet there is another consideration, namely, that useful work is wanted for the 350,000 relief labourers in Bellary. They have already made a great length of local roads—quite as many roads, indeed, as can be maintained hereafter. Metal for future years' use is being collected on these roads. But soon there will, for a great many of these labourers, be no useful work left to do. And therefore it seems desirable to employ these superabundant relief labourers on the earth-work of the Borkellary Railway, which earth-work may hereafter be useful if the line is ever made. I propose that relief labour should be employed on the Bellary to Hubli section only, because I do not think it will practically be possible to transport to the Canara ghauts large gangs in time enough to do any appreciable work thereon before the monsoon (rainy season) begins. The length from Bellary to Hubli is the cheaper and easier section of the line. And according to the opinion expressed by Bellary cotton dealers, this section would bring a considerable cotton traffic from Dharwar upon the Madras (or upon the Great Indian Peninsula) guaranteed railway.

No. 94.

No. 115.

No. 195, dated 16th February 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the CHIEF SECRETARY
TO THE GOVERNMENT OF MADRAS, Revenue Department.

Bengal Civil
officers sent
to Madras.

I am directed to acknowledge the receipt of your telegram of the 31st ultimo, requesting that the services of the following Bengal Civil Officers may be placed at the disposal of the Government of Madras for duty in the famine-stricken districts of that Presidency :—

Mr. Howe	from North-western Provinces to Bellary.
„ H. M. Kisch	„ Bengal to Bellary.
„ Kirkwood	„ „ Cuddapah.
„ Hodgkinson	„ „ Nellore.
„ A. W. Mackie	„ „ „
„ W. B. Oldham	„ „ Kurnool.
„ H. C. Fanshawe	„ Punjab „
„ Damant	„ Assam to North Arcot.
„ Kitts	„ Berar to Madura.
„ Williams	„ Central Provinces to Salem.

2. In reply, I am to state that the services of the under-mentioned officers have been placed at the disposal of the Madras Government, and that they have already been ordered to report themselves to the Collectors of the districts wherein they are required for duty, viz. :—

Mr. Howe	to report himself to the Collector of Bellary.
„ H. M. Kisch	„ „ „
„ A. W. Mackie	„ „ Nellore.
„ W. B. Oldham	„ „ Kurnool.
„ Kitts	„ „ Madura.

3. The services of the gentlemen mentioned in the margin not being available, I am

Messrs. Damant, Hodgkinson,
H. C. Fanshawe, Kirkwood, and
Williams.

to state that the following officers have been ordered to
proceed in their stead :—

Mr. G. Sharp	to the Nellore district.
„ A. Weekes	„ Cuddapah.
„ H. Gillan	„ Kurnool.
„ A. C. Tute	„ Salem.

4. Thus it will be observed that, to complete the number required, only one officer is required, who will be appointed shortly.

5. As regards the pay and allowances which the officers deputed will receive, I am to refer to my telegram and letter of the 8th instant, and to state that the Governor-General in Council has been pleased to sanction the same rates of pay and allowances as were granted to officers who had been deputed from other parts of the country for famine duty in Bengal in 1874, namely, their existing pay and allowances, *plus* a monthly allowance of Rs. 300 to officers above five years' standing from the date of their landing in India, and Rs. 200 to those below five years, besides the carriage of horses to the famine districts and back.

No. 95.]

No. 115.

XXXVII.—MINUTE by SIR RICHARD TEMPLE, regarding the receiving of labourers from
Mysore and the Nizam's territories on relief works in the Madras Presidency.

Bellary, 16th February 1877.

Treatment of
Mysore and
Hyderabad
subjects re-
sorting to re-
lief works
in British
territory.

I desire to submit to the Government of Madras certain observations on its general order of the 9th February, which directs that "coolies (relief labourers) from Mysore and Hyderabad are to be treated on relief works exactly as our own people."

2. Already many persons of this description have resorted from Mysore and Hyderabad to the relief works in the Madras Presidency, and, after their necessities have been relieved, have been sent back to their own province, Mysore or Hyderabad, as the case may be, by which authorities they have been duly received. Both in Mysore and Hyderabad relief works are open, and I know that the authorities in both these States are willing and able to take care of their own people and to avoid casting the burden of supporting them on the British Government.

3. In Mysore the relief operations are entirely under the direction of British officers, just as if they had been in British territory. But as relief has been allowed somewhat more liberally in the Madras Presidency than in Mysore, there is no fear of British subjects resorting to Mysore, while there is every fear of Mysore subjects resorting to Madras districts. I was distinctly warned of this by the Mysore authorities themselves, who said that many thousands of their people might be resorting to British districts, who all the time might properly be, indeed, ought to be, maintained by Mysore. The Chief Commissioner would, I am sure, be glad that such people should be sent back to him. And I know that the Chief Commissioner is as anxious as he is resourceful, to provide for all Mysore subjects.

4. If, therefore, in virtue of the Madras Government order cited above, any number of Mysore ryots were to come upon Madras works, an unnecessary expenditure of British money would be incurred, upon that which was really the business of the Mysore State, notwithstanding that the Mysore State is anxious to undertake its own duty with its own money.

5. The same remark, *mutatis mutandis*, applies to the Hyderabad territory.

6. It is true that in 1874 the Bengal Government received on its relief works refugees from Nepaul, but then the adjoining Nepaul districts were not under British supervision, and, so far as we knew, did not contain any relief works. It was therefore deemed necessary to receive the poor people. But the case is quite different with the Mysore State, which is administered by our own officers; and also the case is different with the Hyderabad State, where ample provisions of relief are known to have been made.

7. I would therefore suggest that the officers in the Madras districts be directed to receive persons from Mysore or Hyderabad temporarily if seen to be labouring under immediate necessity, but to give the earliest intimation to the nearest local authority either in Mysore or Hyderabad, as the case may be, in order that these persons may be transferred to their own territory.

No. 96.

XXXIX.—MINUTE by SIR RICHARD TEMPLE, regarding the doubling of the line of Railway from Ambatoor, near Madras, to Arconum.

No. 115.

Humpé, Bellary District, 16th February 1877.

On the 27th January I submitted to the Government of India by telegraph a recommendation that the line from Ambatoor near Madras should be doubled as far as the Arconum Junction. This suggestion was made after consultation with his Grace the Governor of Madras, and after a conference with Mr. Elwin, the Agent of the Madras Railway. The Government of India have been pleased to accede to the proposal; and I deem it right to record briefly my reasons for recommending this undertaking.

2. The whole inward and outward railway traffic of Madras, except the trade towards the coast districts of Chingleput and Cuddalore (South Arcot), has to pass over 42 miles of line from Madras to Arconum Junction. Out of this length, seven miles only consist of double line, while 35 miles from Ambatoor to Arconum have a single line of rails only. From Arconum Junction the line bifurcates,—one branch goes north-westward into the ceded districts and towards Bombay, while the other goes south-westwards through North Arcot, Salem, and Coimbatore towards Beypore. From this south-west line breaks off the branch to Bangalore in the province of Mysore. During the present time of scarcity a part of the food required for the ceded districts, and almost the whole of the foreign grain required by North Arcot, Salem, and the Mysore country, has to pass over the 35 miles of single line between Ambatoor and Arconum Junction.

3. The daily supply of imported food sent into the famine districts is therefore limited by the carrying power of the 35 miles of single line over which the ordinary inward and outward traffic of the country has to pass. There is a very large store of grain on the Madras beach waiting for despatch into the interior; the demands of the famine country are great, and up-country dealers complain that they cannot get their consignments of grain away from Madras. According to the lowest computation, and on the under-

* NOTE.—See the sketch of the amount of imported food required by the famine districts, submitted to the Government of India on the 27th January. Subsequent inquiries into the circumstances and trade of Bangalore have shown that the Mysore

standing that the ceded districts will for the most part consume grain brought by the Great Indian Peninsula Railway from the north, the famine districts now require 1,200 tons* of grain per diem from Madras. If the northern supply should in any way fail, or when the monsoon shall close the west coast parts, the famine districts

Railway from Ambatoor to Arconum to be doubled.

Doubling of
railway from
Ambatoor to
Arconum.

demand may have been under estimated in that sketch. will in all probability require more than 1,200 tons a day from Madrás.

4. With a single line, the Madras Railway has never worked more than 7,200 tons of grain over the Arconum length in one week. It is said that, with great exertions, 9,000 tons a week might be carried. It is evident, however, that the single line can, even if everything works smoothly and well, barely meet the present minimum requirements of the country. If anything goes wrong, or if the demand increases, then the Arconum length of the railway cannot do the work which the country requires of it. This requirement is not merely for ordinary articles of commerce, but for actual food, without which prices must rise greatly, and the food supply of the country must fall short. The two lines which branch off from Arconum could, between them, carry considerably more than 1,200 tons of grain, if only it could be carried to Arconum.

5. Under these circumstances it seems absolutely necessary to double the line to Arconum, so as to enable the Madras Railway to carry as much grain as the country needs, and as the trade seems ready to supply. Though the Madras Railway does not possess spare rails sufficient for the 35 miles, yet rails are to be had in the country, and I was informed by the Madras authorities that the work could be finished in six weeks from its commencement. The cost of the work would probably be from 80,000*l.* to 100,000*l.*, and this amount would be added to the guaranteed capital of the Madras Railway.

No. 97.

No. 181.

LXXVI.—MINUTE by SIR RICHARD TEMPLE, recommending the deputation of European and Native Officers from the Madras Army for employment on relief operations.

Camp Bellary, 16th February 1877.

Employment
of European
and Native
officers of
Madras army
necessary.

The time has now come when the few civil officers and engineers in the interior of the country are unable properly to control and employ all the hundreds of thousands of relief labourers that are upon the hands of Government. Some few civil, military, and engineering officers have been sent from the Bengal Presidency by the Government of India to work under the Collector of the more distressed districts. I would now recommend that a certain number of European officers, Native officers, and selected privates from the Madras army should, if his Excellency the Commander-in-Chief were pleased to spare them, be made available for controlling relief operations.

2. During the Bengal famine, by the kindness of the Commander-in-Chief, Lord Napier of Magdala, some scores of European officers, and some hundreds of Native officers, non-commissioned officers, and men of the Bengal army were deputed to North Behar and North Bengal for relief work. It was found that the Native officers and men were, from their habits of discipline and order, specially fitted to control and to direct the employment of large numbers of relief labourers. Many of these Native officers and men gained for themselves honourable mention, which redounded to the credit of their service. The position of such officers in the army makes them less likely to succumb to temptations, such as are sometimes too strong for the honesty of temporary Native officials on small salary. I trust that selected Native officers and men of the Madras army would prove themselves as able and energetic as their brethren in Bengal. And I would recommend that his Excellency the Commander-in-Chief be asked temporarily to depute, for the assistance of the Civil Government in this time of sore need,—

20 European officers.

60 selected Native officers, commissioned and non-commissioned.

40 selected men.

These officers and men, if his Excellency the Commander-in-Chief were pleased to spare their services, might perhaps be allowed by his Grace the Governor to draw deputation allowances at the rates allowed to their brethren of the Bengal army in the Behar famine of 1874.

No. 98.

Nos. 104.
115.

Telegram, dated 17th February 1877.

From C. E. BERNARD, Bellary, to T. C. HOPE, Calcutta.

Hubli-Bel-
lary Railway.

Your message of 13th has missed me. Repeated message 16th received to-day. Sir Richard's recommendation is that earth-work be begun on proposed line from Bellary

to Hubli, a great cotton mart of Dharwar district. He does not recommend work west of Hubli at present. Minute, with detailed opinion goes to-day.

No. 99.

No. 76, dated Bellary, 17th February 1877.

No. 115.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

I am directed to submit copy of a memorandum by Captain Bisset, regarding his recent meeting with officials of the Great Indian Peninsula Railway, together with a copy of the letter which Sir Richard Temple has caused to be addressed to the Governments of Bombay and Madras on the subject. Nos. 89. 90.

2. There can be no doubt that the grain traffic from the north is now working fairly well into the ceded districts, and there is prospect of further improvement. The proposal for working the Raichore section of the Madras line by the Great Indian Peninsula Railway Company need not now be pressed. Grain traffic.

3. Sir Richard Temple is of opinion that Captain Bisset's services in this matter have been highly creditable to that officer.

No. 100.

XLI.—MEMORANDUM by CAPT. W. S. S. BISSET, R.E., on special duty, on the PROGRESS of the ARRANGEMENTS for IMPROVING the DELIVERY of GRAIN from the NORTH to the MADRAS RAILWAY. Nos. 119. 147.

Bellary, 17th February 1877.

Through booking from the Great Indian Peninsula Railway to the Madras Railway was suspended about the 5th January, resumed on the 23rd January, again suspended on the 4th February, and again resumed on the 29th February. Mr. Conder informs me that, even during the suspensions, goods booked to Madras Railway by the East Indian Railway or by other lines beyond the Great Indian Peninsula Railway's system were duly forwarded. Mr. Conder explains that the Native merchants fully understand and are not discouraged by these alternations; and although I cannot understand this, I cannot suppose that Mr. Conder would accept (as he does) all the difficulties of detention of waggons and shunting of trains at roadside stations without very strong convictions of the superiority of the mode of working which he adheres to; and although I believe that the traders of the ceded districts of Madras would deal more directly with the distant markets if they could reckon more confidently on any regular interval between the despatch and the arrival of their goods, it must be noted that any deficiency of enterprise in the distant markets is made up for by the activity of the trade from Poona, Sholapur, and the Nizam's dominions. Railway grain traffic arrangements.

II. Efforts are made at the Great Indian Peninsula Railway stations to discourage the booking of grain locally to Raichore as an alternative to through booking, the consignors being advised that any suspensions of through booking are temporary, and that the Madras Railway Company's trains from Raichore are occupied with through traffic. But Raichore station can, under present arrangements, receive local grain without inconvenience; and now that this reason can no longer be urged, the argument in favour of getting large quantities of grain as near as possible to the distressed districts cannot but be admitted; and moreover grain has now begun to go from Raichore to Kurnool, and more might be expected to take this route if the road and its arrangements could be improved.

During the first sixteen days of February there have been 1,460 through booked waggons passed through Raichore, against 297 waggons booked locally, and the local booking has not unduly increased and it is now quite manageable.

III. The additional sidings were promptly put in at Raichore station, and they have been found of the greatest assistance, particularly in unloading grain for Raichore.

IV. Crossing stations are being constructed, one near the Tungabhadra river (with special reference to the water-supply) and another between Kosgi and Adoni.

Crossing stations and additional sidings.

Additional sidings and grain sheds are ordered at Adoni, where there is now, and where there is likely to be, a heavy traffic.

The crossing stations south of Adoni are not yet in progress, it being considered that the traffic south of Adoni can be passed without further assistance.

I believe that as soon as it is found possible to draw supplies from the north, the demand from the districts south of Gooty will increase much more than it has already done. But in the meantime I fear a temporary check will occur in the traffic as a result of the great fall in the prices of northern grain which has lately taken place, and if the estimates are not altogether wrong, this check will be followed by a more severe pressure than has yet occurred.

Below the junction for Bellary the number of trains may be practicable, but on the line between Raichore and Goondacal junction, I think no means of facilitating the passage of trains should be neglected.

V. The Traffic Manager of the Great Indian Peninsula Railway has now made arrangements to give all the desired assistance to the traffic through Raichore.

The numbers of waggons handed over to the Madras Railway at Raichore are now regulated by the demands* made by the station-master of the junction station; the times of the Great Indian Peninsula Railway are arranged to suit the requirements* of the Madras Railway Company; the waggons are now arranged in station order as much as possible, with the view of reducing the work at, and avoiding difficulties in, the Raichore station; and the waggons for Raichore itself, and for transshipment at Raichore, are being delivered together and by the trains arriving at the hours most convenient for prompt unloading and transshipment.

VI. The arrangements for mutual accommodation at Raichore junction provide for keeping the Great Indian Peninsula Railway Company informed how many waggons the Madras Railway Company can take and promptly dispose of daily.

VII. It will be noticed from the appended table that the number of waggons moved from Raichore southwards has not been maintained up to the average of the first six days of February.

Since the 6th February two engines have been transferred to Raichore, but the third, promised about the 16th, has not yet arrived. Of the two sent up, one failed on the 11th, and another of those formerly on this section has also failed, so that the power at Raichore is again no greater than before.

But, even with the temporary increase of power from the 6th to the 11th, the average number of waggons worked away during the last 10 days is only 102 against 110 a day during the first week of February. It is said that both men and engines were worked at too high pressure during the former period, and this is perhaps the case.

But, possibly, the Locomotive Superintendent may find it possible to arrange for larger shed staff to undertake the necessary shed work to the engines, and to relieve the drivers and firemen from this work so that they may have all their time at home for rest. I learn that many of the Great Indian Peninsula Railway Company's engines are at present worked longer hours, but with reliefs of drivers and firemen, and I see no reason why, with increased running shed establishment to look properly after the engines, this should not be possible on the Madras Railway.

At present a great many of the hours on the road are spent at stations waiting for other trains or crossing orders, and improved regularity of the train service will do much to increase the effective work of both men and engines.

VIII. Reference has already been made to the system under which the movements of the trains on the Madras Railway are regulated, as one of the main causes of this irregularity. The system works very well with few trains, whose irregularities are easily adjusted; but with the multiplication of trains, telegraphic references to and replies from the directing officer increase proportionally, the telegraphic communication fails in the promptitude necessary to prevent serious delays, and in consequence of these delays (which have always a tendency to become cumulative) the train service gets disorganised.

This disorganisation throws an incessant strain on the directing* officer. But its consequences are perhaps most severely felt by the train staff, whose working hours are extended to the full limit of endurance.

A change (involving some delay and considerable expense) to the block system is now being made between Raichore and Adoni, but it will not be practicable, even if it

* At the present moment one of these officers at Madras has been invalided from incessant work; and at Gooty it has been found necessary to appoint a second officer for this special duty and for work also at Raichore.

is desirable, to introduce this change over the whole line in time to be of present use. I believe that a change to the system in force on most of the other Indian railways might safely be introduced, length by length, with a few days of special attention by the telegraph and traffic officers to each length as the change is made.

Railway grain traffic arrangements.

But even if this is considered impracticable, I believe that even with the present system an increase to the telegraph staff would afford considerable relief, and I am confident that if the necessary signallers are not available in this presidency, they could be obtained from other parts of India.

The importance of economising the time of the working staff cannot in my opinion be over-estimated; for, besides considerations of public safety and of humanity to the staff, it has to be remembered that the supply of trained staff is limited, and that upon the vigilance and endurance of the staff during the next four months the supply of food to the people depends.

IX.—Sufficient watering arrangements are of equal importance with an increase of engines and staff, and there is considerable anxiety about the sufficiency of the supply in the length from Raichore to Cuddapah. Efforts are now being made to supplement the supply, but it will very probably be necessary to provide a supply of portable tanks to convey water for use on the long trips where no water can be got. Fortunately, there are a number of suitable iron tanks available in Madras.

Watering arrangements.

An addition has been made with great success to the area of the station well at Kosgi, and similar additions are being made at one of the other stations.

It can hardly be hoped that all the enlargements of the wells will be equally successful, but to meet the coming emergency every possible source of water should be, and I believe is being, tried.

X.—It will be seen from the above notes that, although there is a slight difference of opinion on the through-booking question, the General Traffic Manager of the Great Indian Peninsula Railway has done all that he has been asked to do, and in some respects more than he is legally bound to do, to facilitate the through traffic at Raichore.

The Madras Railway Company, with equally good intentions, has much greater difficulties to contend with. It is short of engines, and its traffic and locomotive staff is ordinarily kept very low.

It has never before had to deal with a traffic so large as the present, and it has for the first time to encounter the difficulty of adapting its arrangements to working a heavy traffic.

And it is thus not to be wondered at that from one cause or another there is not the same facility of expansion on the Madras Railway as there is on lines which have often before had to meet these emergencies.

But with regard to the through traffic from the Great Indian Peninsula Railway, although the mishaps recorded in paragraph 7 have prevented the Madras Railway from working up to the promises made to the Great Indian Peninsula Railway, the advance made has been considerable.

The average number of waggons worked away from Raichore for the first 16 days of February has been 105 a day, while the daily average of the period from the 4th to the 22nd of January was only 72 waggons. The difference in weight of grain amounts to 200 tons a day, and this increase has been attained without any corresponding sacrifice of the despatches from Madras.

Railway
grain traffic
arrange-
ments.

STATEMENT showing the DAILY ARRIVALS of WAGGONS at RAICHORE JUNCTION, and the daily despatches from the same station southward, obtained through the courtesy of the Traffic Manager, Madras Railway.

Month and date.	Number of through booked Waggons deli- vered at Raichore in Waggons which can run through.	Number of through booked Waggons which have to be tran- shipped at Rai- chore.	Number of Waggons de- livered at Rai- chore to be unloaded there.	Number of through Wag- gons detained at Raichore.	Number of Waggons (through tran- shipped and local) forwarded from Raichore southward.	Remark.
February 1st	106	16	26	136	128	
" 2nd	73	3	10	131	110	
" 3rd	78	10	6	116	113	
" 4th	90	5	11	116	113	
" 5th	48	10	29	106	90	
" 6th	22	6	3	82	107	Two additional engines arrived.
" 7th	51	4	1	32	131	
" 8th	73	4	28	33	117	
" 9th	101	16	9	65	80	
" 10th	91	14	17	37	115	Two engines failed.
" 11th	119	10	16	68	79	
" 12th	95	8	17	53	95	
" 13th	106	8	8	74	119	
" 14th	106	2	7	79	95	
" 15th	91	8	15	83	114	
" 16th	84	12	2	75	73	
	1,334	136	297	Total not required.	1,679	

No. 101.

No. 70, dated Bellary, 17th February 1877.

From the SECRETARY TO SIR RICHARD TEMPLE, Bart., K.C.S.I., to the RESIDENT,
Hyderabad.

No. 95.

Hyderabad
subjects re-
sorting to
relief works
in British
territory.

By direction of Sir Richard Temple, I have the honour to forward copy of a minute recorded by him regarding the reception of Mysore and Hyderabad labourers upon relief works in the Madras Presidency.

2. Sir Richard Temple would hope that you may see fit to move his Excellency the Minister to direct the Nizam officers to employ and keep within the Hyderabad districts any persons who may be desiring work. It is understood that his Excellency has already established ample relief works.

No. 102.

XL.—MINUTE by SIR RICHARD TEMPLE, regarding the question of the port of landing for the supply of grain destined for Mysore.

Nos. 116.
133.

Goondacal, 19th February 1877.

Negapatam
as a port of
landing for
sea-borne
trade for
Mysore.

I desire that Captain Bisset will be good enough to inquire from the Mysore traders regarding the question of the sea-borne grain destined for Mysore being sent from the port of Negapatam by the South of India Railway to Bangalore, instead of being sent from the port of Madras by the Madras Railway Company's line.

2. When I visited Bangalore, I understood that the Government of Madras preferred that the grain should be sent from Negapatam rather than from Madras, in order to relieve the unavoidably over-burdened Madras line. I therefore urged this view upon the Chief Commissioner of Mysore, and upon the Native traders assembled at Bangalore. I explained to them the merits of the Negapatam route, and the convenience which would result if they could, consistently with their trading interests, adopt that course. They did not give me a clear answer at the time, though they promised that they would consider the matter. My impression, however, was that they felt considerable doubt, and that they might prove unwilling to change from Madras to Negapatam, partly because the freight to Negapatam might be higher and the conveniences of that port less, partly also because they already had their agencies established at Madras. By this time, however, they will be able to form a more definite answer. I therefore shall be glad if Captain Bisset will proceed to Bangalore and learn, as exactly as may be possible, how the matter stands. He could ascertain whether, in the event of the Negapatam project failing, the grain could be brought from the Western Coast.

3. With a view to prepare himself for the discussion with the Mysore traders, he should first visit Negapatam, in order that he may be able to explain to them what the advantages of that port are.

4. The Chief Commissioner of Mysore (to whom a copy of this minute will be forwarded) will, I am sure, give him every assistance.

No. 103.

No. 563, dated 19th February 1877.

Nos. 127.
221.

From the COMMISSIONER, Nundydroog Division, to the OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE.

I have the honour to report for the Chief Commissioner's information that the Amildar of the Maddagiri taluk complains that the people of Hindupur and Madaksira, in the Bellary district, are coming into his taluk both to the relief works and the kitchens in large numbers and are spreading cholera throughout his taluk. These people say that work has been stopped and the kitchens closed in parts of their taluks.

Complaint of
migration
from Bellary
to Mysore.

No. 104.

Telegram, dated 20th February 1877.

Nos. 105.
115.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to REVENUE SECRETARY, Madras.

Government of India sanction immediate commencement of earth-work of railway between Hubli and Bellary by relief labourers. The land to be taken up and charged to the Local Governments. This in no way pledges the Imperial Government to ultimate construction of the railway. Further instructions will issue from the Public Works Department.

Earth-work
of railway
from Hubli
to Bellary
sanctioned.

No. 105.

Nos. 108.
115.

Telegram, dated 20th February 1877

From REVENUE ADDITIONAL SECRETARY, Calcutta, to SIR RICHARD TEMPLE, Bellary.

Government of India have informed Governments of Madras and Bombay that they sanction immediate commencement of the railway between Bellary and Hubli on the terms you suggest.

STATEMENT A.

Nos. 107.
115.STATISTICS RELATING TO THE DISTRESSED DISTRICTS IN THE
BOMBAY PRESIDENCY.

N.B.—This statement consists of extracts from the information furnished by the Government of Bombay on November 4th, 8th, and 15th, 1876, in accordance with the telegram from the Government of India of the 22nd October, and of summaries submitted by that Government of the reports of each taluka called for by the Government of India on November 30th, 1876.

Statistics relating to distressed districts in Bombay Presidency.

KEY to the alphabetical headings in the following statement :—

- (a.)—A careful estimate of the amount (if any) of the crop which has been saved, calculated in annas on the assumption of an average yield being represented by 12 annas : *kharif* and *rabi* should be shown separately ; if there be any prospect of further sowings, it should be mentioned :
- (b.)—An estimate, as close as may at the time be practicable, of the amount of revenue to be remitted :
- (c.)—Information as to the mortality, past and anticipated, among cattle and agricultural stock ; the measures already adopted by Government and the people, their result, and suggestions for the future :
- (d.)—The nature of the water supply, extent of its failure, further anticipated failure up to next rains, and remedial measures possible, if any :
- (e.)—The course of prices weekly of each of the principal food-grains from October 1st up to the date of report in each case, and six years' averages :
- (f.)—The local stocks as far as ascertainable ; the centres, railway stations or otherwise, whence further supplies are being or may be drawn, and the probability of private enterprise being sufficient to maintain them, as also of a fall in prices owing to ample importation :
- (g.)—The character of the population, whether high or low caste, poor or well to do, purely or only partly agricultural, and if the latter, in what proportions urban or artizan ; also the character of the landholders, whether large, wealthy, able to aid their tenants and likely to do so, or the reverse :
- (h.)—The movements of the people ; how far emigration has taken place, and with what result (have the people bettered themselves, or merely gone elsewhere to starve, or are they returning), and whether further emigration is probable :
- (i.)—The relief works already started, their sufficiency or otherwise, and the further works which are considered practicable, arranged in the order of their necessity :
- (j.)—The nature and amount of charitable relief given to travellers, and to the aged, infirm, &c. who are unable to work :
- (k.)—The number of persons whom the Government has on its hands at date of report for relief (1) by works, (2) by charitable measures, and the number, roughly estimated, which it is likely to have on its hands on March 1st, May 1st, and July 1st.

NORTHERN DIVISION.—REVENUE COMMISSIONER—MR. L. R. ASHBURNER,
C.S.I.

KHANDEISH DISTRICT.—COLLECTOR, MR. W. H. PROPERT.

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.	Rough Proportion of <i>kharif</i> to <i>rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rain-fall this Season.
			Rs.	<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
1. Dhulia - -	759	66,929	1,69,915	159,239	6,319	23·83	12·73
2. Amalner - -	529	79,863	2,58,024	173,204	20,022	21·93	15·15
3. Erandol - -	467	76,689	2,30,127	158,192	18,073	30·4	14·79
4. Páchora - -	542	84,880	2,86,181	170,697	6,906	28·31	12·86
5. Chálisgaon - -	511	44,568	1,27,905	91,373	8,837	28·19	13·21
6. Pimpalner - -	1,039	60,125	1,19,345	109,393	12,891	26·78	16·81
7. Nundurbár - -	647	45,285	1,25,676	46,333	22,502	24·74	16·57
8. Taloda - -	1,135	35,278	59,304	9,370	17,510	29·4	28·32
9. Sháháda - -	468	46,228	2,05,913	65,943	40,865	21·36	16·6
10. Virdel - -	507	63,350	2,41,838	153,656	27,593	18·57	7·95
11. Shirpur - -	780	34,642	1,29,830	58,625	17,235	20·55	11·24
12. Chopra - -	495	51,581	1,60,482	86,912	11,622	} Information not available.	11·97
13. Sauda - -	867	124,519	2,78,744	182,518	27,206		13·4
14. Bhusáwal - -	570	84,245	2,46,223	154,127	11,264	26·47	8·41
15. Nasirabad - -	319	60,109	2,11,532	83,326	30,307	} Information not available.	12·31
16. Jámner - -	527	70,351	1,75,088	140,514	744		13·26
Total - -	10,162	1,028,642	30,26,127	1,842,822	279,896	—	.

KHANDEISH

Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.			
DHULIA Taluka (1st Assistant Collector Mr. C.)							
The kharif yield is 4 annas, and the rabi, which is cultivated only in irrigated lands, promises well. There are no prospects of further sowings this season.	The total amount of revenue is not given, but the probable remissions are Rs. 45,000.	There has been no unusual mortality amongst the cattle, and none is anticipated, as the ryots have imported abundance of grass.	About three-fourths of the water supply has failed; in 40 villages there will be a total failure of the ordinary supply. To meet this, ziras are being made, and wells deepened and repaired.	Prices—Lbs. per Rupee			
				For the Week ending			
				Wheat.	Bajri.	Jowari.	
				7th October 1876	29½	31½	42
				15th "	28	28	32½
				22nd "	27½	28	31½
				31st "	26½	26½	31½
				7th November 1876	25½	24½	28
				15th "	23½	23½	28
				22nd "	23½	26½	28
				30th "	26½	26½	29½
				7th December 1876	24½	26½	31½
				15th "	24½	27½	31½
				22nd "	25½	29½	31½
31st "	25½	29½	31½				
Average of six years				30½ 31½ 51½			

PIMPALNER Taluka (1st Assistant Collector Mr. C.)

a.	b.	c.	d.	e.																																																																											
PIMPALNER Taluka (1st Assistant Collector Mr. C.)																																																																															
The kharif yield may be taken at 8 annas, and the rabi, which is cultivated only in irrigated lands, promises an average crop. No further sowings are probable this season.	The total amount of land revenue is not given, but the remissions are estimated at Rs. 500.	There is no mortality from starvation amongst the cattle, and none is anticipated.	There will be no scarcity of water, though there is less than usual.	Prices—Lbs. per Rupee For the Week ending <table> <tr> <th></th><th>Wheat.</th><th>Bajri.</th><th>Tur Dal.</th><th>Jowari.</th></tr> <tr> <td>7th October 1876</td><td>38½</td><td>38½</td><td>28</td><td></td></tr> <tr> <td>14th "</td><td>31½</td><td>31½</td><td>28</td><td></td></tr> <tr> <td>21st "</td><td>28</td><td>28</td><td>28</td><td></td></tr> <tr> <td>28th "</td><td>28</td><td>28</td><td>28</td><td></td></tr> <tr> <td>4th November 1876</td><td>28</td><td>28</td><td>28</td><td></td></tr> <tr> <td>11th "</td><td>28</td><td>28</td><td>28</td><td></td></tr> <tr> <td>18th "</td><td>31½</td><td>31½</td><td>24½</td><td></td></tr> <tr> <td>25th "</td><td>28</td><td>28</td><td>21</td><td></td></tr> <tr> <td>2nd December 1876</td><td>28</td><td>28</td><td>21</td><td></td></tr> <tr> <td>9th "</td><td>24</td><td>28</td><td>21</td><td></td></tr> <tr> <td>16th "</td><td>28</td><td>28</td><td>21</td><td></td></tr> <tr> <td>23rd "</td><td>27</td><td>28</td><td>28</td><td></td></tr> <tr> <td>30th "</td><td>27</td><td>27</td><td>21</td><td></td></tr> <tr> <td>Average of six years</td><td>—</td><td>33</td><td>26</td><td>—</td></tr> </table>		Wheat.	Bajri.	Tur Dal.	Jowari.	7th October 1876	38½	38½	28		14th "	31½	31½	28		21st "	28	28	28		28th "	28	28	28		4th November 1876	28	28	28		11th "	28	28	28		18th "	31½	31½	24½		25th "	28	28	21		2nd December 1876	28	28	21		9th "	24	28	21		16th "	28	28	21		23rd "	27	28	28		30th "	27	27	21		Average of six years	—	33	26	—
	Wheat.	Bajri.	Tur Dal.	Jowari.																																																																											
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23rd "	27	28	28																																																																												
30th "	27	27	21																																																																												
Average of six years	—	33	26	—																																																																											

NIZÁMPUR PETHA, Pimpalner Taluka (1st Assistant Collector Mr. C.)

In about eight villages the kharif crop has failed; in the rest it has been from 10 to 12 annas. The rabi crops have been equal to or above the average. There are no prospects of any further sowings this season.	The total amount of revenue is not given, but the probable remissions are Rs. 1,500.	No unusual mortality has occurred or is likely to occur amongst the cattle.	There will be no distress owing to scarcity of the water supply, though it is less than usual.	Prices—Lbs. per Rupee
For the Week ending				Wheat. Bajri. Jowari.
1st October 1876	-	38½	38½	45½
8th "	-	38½	38½	45½
16th "	-	31½	31½	38½
24th "	-	31½	31½	38½
1st November 1876	-	28	24½	29½
8th "	-	28	26½	31½
16th "	-	24½	24½	28
24th "	-	24½	24½	28
1st December 1876	-	28	28	31½
8th "	-	28	28	31½
16th "	-	28	28	31½
24th "	-	28	28	31½
1st January 1877	-	28	28	31½
Average of six years	-	40½	43½	49

SHÁHÁDA Taluka (1st Assistant Collector Mr. C.)

The kharif yield has been an average one. The rabi crop is good, with the exception of gram and linseed, which will yield only 8 annas.	No remissions are necessary.	No mortality from starvation has taken place or is anticipated.	There will be no failure of water, the usual amount of rain having fallen.	For the Week ending	Prices—Lbs. per Rupee			
					Bajri.	Jowari.	Wheat.	
				8th October 1876	-	42½	43½	38½
				15th "	-	42½	48½	30
				23rd "	-	40	43½	30
				31st "	-	32	32½	28
				8th November 1876	-	32	32½	25½
				15th "	-	24½	28	22
				23rd "	-	28½	28	26½
				30th "	-	31	36½	26½
				8th December 1876	-	29	36½	27½
				15th "	-	32	36½	28
				23rd "	-	32	34	28
				31st "	-	31	32½	27½
				Average of six years	-	54½	62½	39½

KHANDEISH.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
Blathwayt's Report, dated 10th January 1877).					
There are about 900,480 lbs. of grain in store, and it is imported from the Central Provinces and Nymore via Chalisgaon.	The bulk of the population consists of Kunbis who are poor. Sowkars will assist the ryots who work under them.	No emigration has taken place, nor is any anticipated.	No works, except Provincial and Local Funds, are in progress, nor will any be needed.	Rs. 200 have been allotted by the Son-gir Municipality for charitable purposes, but no expenditure has been made.	Government is not at present affording relief to any persons either on works or by charity, nor is it probable that help will be required from Government.

Blathwayt's Report, dated 10th January 1877).					
Most of the well-to-do have a year's supply of grain for their own consumption; the amount in store or for sale is not given; but no scarcity is anticipated, though prices are high. If necessary, grain can be imported from Dhulia and Malegaon.	The population is almost purely agricultural; and there are no landholders likely to aid their tenants should they require help.	No emigration has taken place, nor is any probable.	No relief works are in progress, nor will any be needed.	No charitable relief is given, and none is sought by any one.	It is improbable that Government will have any people to support either on works or by charity.

Inspector Mr. C. G. Blathwayt's Report, dated 10th January 1877).					
Most of the ryots have not sufficient corn for their own consumption. There are no large grain markets.	The people, except between 50 and 75 sowkars and shopkeepers, are agricultural Kunbis, and are poor. There are no large landholders.	There has been no emigration, and none is anticipated.	There are no relief works in progress, nor are any necessary.	The aged and infirm are in no worse condition than in ordinary years.	It is not likely that Government will be called upon to afford relief either on works or by charity.

C. G. Blathwayt's Report, dated 10th January 1877).					
There are 1,344,000 lbs. of grain in store, and this is sufficient for local consumption.	The population consists of Bheels, Guzars, and Kunbis. The Guzars and Kunbis, and some of the Bheels, are employed in agriculture. The rest of the Bheels in labour. There are no large landholders.	No emigration has taken place, nor is any probable.	No relief works are in progress, nor are any required.	No special arrangements are necessary for relief either on works or by charity.	

Statistics relating to distressed districts in Bombay Presidency.

a.	b.	c.	d.	e.
NANDURBĀR Taluka (1st Assistant Collector)				
The crop, both kharif and rabi, has reached the average. There are no prospects of further sowings this year.	The total amount of land revenue is not given, but the probable remissions are Rs. 1,000.	There has been no unusual mortality amongst the cattle nor is any anticipated.	There will be no distress from scarcity of water.	Prices—Lbs. per Rupee.
				For the Week ending
				Wheat. Bajri. Jowari. Tur Dall.
				7th October 1876 - 36½ 38 41 37
				15th " - 36½ 38 41 37
				25th " - 28½ 29½ 33 37
				31st " - 28½ 29½ 41 37
				7th November 1876 - 24 25 27½ 28
				15th " - 26 24 27½ 28
				22nd " - 22 22 26 18
				30th " - 22 22 26 18
				8th December 1876 - 25 26 30½ 24½
				15th " - 25 28 31 24½
				21st " - 27 31 33 28
				30th " - 27 31 33 28
				Average of six years - 40½ 49½ 63 33½

TALODA Taluka (1st Assistant Collector)				
The kharif crop will be an average one, viz., 12 annas, and the rabi promises the same.	The total amount of revenue is not given, and the probable remissions will be Rs. 1,000.	No cattle have died, or are likely to die from starvation.	There will be no failure in the water supply.	Prices—Lbs. per Rupee.
				For the Week ending
				Bajri. Wheat. Jowari. Tur Dall.
				8th October 1876 - 42 37½ 42 42
				15th " - 42 37 42 42
				23rd " - 30½ 30 35 42
				31st " - 28 28 35 36
				8th November 1876 - 24½ 28 28 25
				15th " - 24½ 24½ 26½ 25
				23rd " - 25½ 25½ 26½ 25
				30th " - 25½ 25½ 26½ 28
				8th December 1876 - 28 28 28 33
				15th " - 30½ 30 33½ 33
				23rd " - 28 28 31½ 28
				31st " - 28 28 31½ 28
				Average of six years - 51½ 42½ 56½ 50½

AMALNER Taluka (Acting Extra 2nd Assistant Collector)				
The kharif yield is 5, and the rabi 3 annas. There are no prospects of further sowings this season.	The probable remissions will be Rs. 30,000. The total amount of revenue is not given.	There has as yet been no unusual mortality amongst the cattle, but the Collector thinks many will die. Government have opened forest reserves, and sanctioned advances to Wanjaries.	According to the Assistant Collector, the water supply is not a matter of anxiety. Old wells are being repaired, and new ones dug. The Collector, however, anticipates a serious failure.	Prices—Lbs. per Rupee.
				Date.
				Wheat. Bajri. Jowari. Tur Dall.
				1st October 1876 - 31 35 39 28
				8th " - 28 28 38 28
				16th " - 24 28 35 28
				23rd " - 24 28 35 28
				31st " - 22 24 31 28
				8th November 1876 - 20 24 28 20
				16th " - 21 24 28 20
				23rd " - 22 28 30 20
				30th " - 22 28 30 21
				8th December 1876 - 24 28 31 21
				16th " - 24 28 30 21
				23rd " - 24 28 30 21
				30th " - 26 28 30 21
				Average of six years - 32 42 56 22

PAROLA PETHA AMALNER Taluka (Acting Extra 2nd Assistant Collector)				
The kharif yield is 5 annas. There is no rabi. There are no prospects of further sowings this season.	The probable remissions are Rs. 4,000. The total revenue is not given.	Some slight mortality amongst the old and worn out cattle is expected, but no Government aid is necessary.	The water supply generally has not failed, but the town of Parola itself is badly off. Large wells are being dug there, and failing them a pumping arrangement from a well on the Bori River would be a success, so far as supplying the town is concerned, but enormously expensive.	Prices—Lbs. per Rupee.
				Date.
				Wheat. Bajri. Jowari. Tur Dall.
				1st October 1876 - 30 37 42 30
				8th " - 30 32 32 30
				16th " - 26 28 31 30
				23rd " - 24 28 32 30
				31st " - 24 28 32 25
				8th November 1876 - 23 24 28 23
				16th " - 23 23 25 18
				23rd " - 23 23 28 21
				30th " - 20 22 27 23
				8th December 1876 - 22 24 30 23
				16th " - 23 26 28 24
				23rd " - 24 29 29 25
				30th " - 24 29 29 25
				Average of six years - 28 42 56 28

ued.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
C. G. Blathwayt's Report, dated 10th January 1877).					
is sufficient grain for local use.	Half the population consists of Bheels and the other half of Kunbis; the former are labourers and the latter agriculturists. Their condition will be nearly the same as in ordinary years.	There has been no emigration, and none is probable.	No relief works are in progress, nor are they necessary.	No special charitable aid is required.	No relief on works or by charity will be required.

G. C. Blathwayt's Report, dated 10th January 1877).

supply of grain will be sufficient for the year.	About two thirds of the population are Bheels, and mostly very poor, and the rest are Kunbis and Guzars. The bulk of the people consists of cultivators, but some are labourers. There are no large landholders able materially to aid their tenants.	There has been, and will be, no emigration.	No relief works are in progress nor are any required.	No special arrangements are necessary for relief either on works or by charity.
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Mr. H. T. Ommaney's Report, dated 6th January 1877).

There are no large stocks of grain in store; it is imported as required from Holkar's territories and Jalgaon and Mhaswad Railway Stations. No fall in prices is anticipated, but private enterprise will supply the market.	About one half of the population consists of cultivators, one fourth of artizans and traders, and the rest of labourers, mendicants, &c. There are no landholders likely to aid their tenants, but the sowkars may do so.	No emigration has taken place, and none is anticipated.	One road work, the Amalner-Parola road, is in progress, and is at present sufficient. Should it be necessary, the Amalner-Jalgaon road can be commenced.	A fund of Rs. 350, Rs. 100 being Government money, has been raised for feeding the incapable poor.	600 are at present on works, and none supported by charity. The probable numbers requiring relief will be on— <table><tr><th></th><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>1st March</td><td>- 1,500</td><td>100</td></tr><tr><td>1st May</td><td>- 2,000</td><td>150</td></tr><tr><td>1st July</td><td>- 2,000</td><td>150</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	1st March	- 1,500	100	1st May	- 2,000	150	1st July	- 2,000	150
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	- 1,500	100															
1st May	- 2,000	150															
1st July	- 2,000	150															

Collector Mr. H. T. Ommaney's Report, dated 6th January 1877).

There are 1,680,000 lbs. of grain in store; it is imported from the western talukas, from Holkar's territories, and the G.I.P. Railway. Private enterprise will supply the market, but prices are unlikely to fall.	The population amounts to 28,000, of whom 10,000 are cultivators and a large number are weavers living in the town of Párola. Half the cultivators are well-to-do, and the other half poor. There are no large landholders, but the cultivators have good credit with the sowkars.	There has been some emigration chiefly from Párola itself on account of the scarcity of water there, but it is not likely to become general.	The Mhasawad tank and the Amalner-Párola road are in progress. The Bho-kar tank and Amalner-Jalgaon road may have to be commenced, and will probably prove sufficient.	No charitable relief has yet been given, but a fund of Rs. 350 (Rs. 100 being Government money) has been collected, and will be used, if necessary, in feeding the infirm poor.	<table><tr><td>There are now about 600 persons on the works. There will be on—</td><td><i>On Works.</i></td><td><i>By Charity.</i></td></tr><tr><td></td><td>—</td><td>—</td></tr><tr><td>1st March</td><td>- 1,500</td><td>200</td></tr><tr><td>1st May</td><td>- 2,000</td><td>200</td></tr><tr><td>1st July</td><td>- 2,000</td><td>300</td></tr></table>	There are now about 600 persons on the works. There will be on—	<i>On Works.</i>	<i>By Charity.</i>		—	—	1st March	- 1,500	200	1st May	- 2,000	200	1st July	- 2,000	300
There are now about 600 persons on the works. There will be on—	<i>On Works.</i>	<i>By Charity.</i>																		
	—	—																		
1st March	- 1,500	200																		
1st May	- 2,000	200																		
1st July	- 2,000	300																		

Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.				
ERANDOL Taluka (Acting Extra 2nd Assistant Collector)								
The kharif yield is 4, and the rabi 3 annas. There are no prospects of further sowings this season.	The probable remissions are Rs. 30,000. The total amount of revenue is not given.	No unusual mortality has yet occurred amongst the cattle, though it is anticipated to a small extent among the old and worn-out ones. The Satpuras are not far, and the people are sending their cattle there or importing grass.	The water supply is not a matter of anxiety, though in some villages it will have to be brought from a distance, and other villages may have to be abandoned for a few months.	Prices—Lbs. per Rupee.				
				Date.	Wheat.	Bajri.	Jowari.	Tur Dall.
				1st October 1876	- 30	24	32	28
				8th "	- 30	27	32	28
				16th "	- 30	26	30	24
				23rd "	- 26	26	30	24
				31st "	- 22	24	27	22
				8th November 1876	- 20	21	24	16
				16th "	- 20	21	24	16
				23rd "	- 20	21	32	16
				30th "	- 20	24	28	16
				8th December 1876	- 24	24	28	16
				16th "	- 24	24	28	16
				21st "	- 24	24	28	16
Average of six years -				32	38	48	22	

CHALISGAON Taluka (Acting Extra 2nd Assistant Collector)								
The kharif yield may be taken at 9, and the rabi at 7 annas. There are no prospects of further sowings this season.	The amount of land revenue is not given; but the remissions are estimated at Rs. 6,000.	There has been no unusual mortality amongst the cattle, nor is there any reason to anticipate any, as Government have thrown open the forests of the taluka.	There is no danger of a serious failure in the water supply. The rivers Girna and Titur and several large nullahs will hold sufficient for the year. In about 15 villages it may be necessary to undertake repairs to wells.	Date.	Prices—Lbs. per Rupee.			
					Wheat.	Bajri.	Jowari.	Tur Dall.
				1st October 1876	32	38	45	32
				8th "	29	31	38	32
				16th "	23	27	36	28
				23rd "	25	26	32	25
				31st "	25	26	32	28
				8th November 1876	21	25	27	21
				16th "	20	21	27	17
				23rd "	27	24	32	18
				30th "	27	24	32	19
				8th December 1876	25	28	33	24
				16th "	24	28	34	21
				23rd "	25	28	31	24
				30th "	27	28	32	28
				Average of six years -				36

PACHORA Taluka (Acting Extra 2nd Assistant Collector)								
The kharif yield may be taken at 7, and the rabi at 2 annas. There are no prospects of further sowings this season.	The total amount of land revenue is not given; but the remissions will probably amount to Rs. 15,000.	No unusual mortality amongst the cattle has occurred, and none is anticipated, except in the case of old and worn-out animals.	This taluka is well watered by the Girna and its tributary streams from the Satmalas. There need be no apprehension of a failure in the water supply.	Date.	Prices—Lbs. per Rupee.			
				Wheat.	Bajri.	Jowari.	Tur Dall.	
				1st October 1876	32	38	46	28
				8th "	25	30	33	28
				16th "	25	30	36	28
				23rd "	24	28	35	28
				31st "	22	24	29	24
				8th November 1876	18	21	28	18
				16th "	18	23	28	18
				23rd "	24	28	32	22
				30th "	24	28	31	17
				8th December 1876	24	31	36	23
				16th "	27	28	32	22
				23rd "	27	28	32	22
				30th "	27	28	34	24
				Average of six years -				32

BHADGAON PETHA, PACHORA Taluka (Acting Extra 2nd								
The kharif yield, which takes up more than three-fourths of the area of the Petha, may be taken at 7 annas and the rabi at 3 annas. Fodder, but no grain, may be sown.	The total amount of the revenue is not given, but the remissions will probably be Rs. 10,000.	No. unusual mortality amongst the cattle has occurred, and none is anticipated, except in the case of the old and worn-out animals.	Many villages to the north of the taluka will suffer from scarcity of water; the only remedial measure is to repair such old wells as are promising. The Janda Canal will, however, greatly alleviate the inconvenience.	Prices—Lbs. per Rupee.				
				Date.	Wheat.	Bajri.	Jowari.	Tur Dall.
				1st October 1876	32	35	38	24
				8th "	31	32	36	24
				16th "	24	28	32	24
				23rd "	24	28	32	24
				31st "	24	28	32	24
				8th November 1876	24	24	31	21
				16th "	18	22	25	18
				23rd "	18	24	26	18
				30th "	19	25	27	18
				8th December 1876.	19	25	27	18
				16th "	20	28	29	19
				23rd "	22	28	29	23
				30th "	22	28	29	22
				Average of six years -				26

Statistics
relating to
distressed
districts in
Bombay
Presidency.

continued.

f.	g.	h.	i.	j.	k.												
H. T. Ommaney's Report, dated 6th January 1877).																	
200,000 lbs. of grain are estimated to be in store; imported chiefly from Jalgaon and Mhasawad railway stations. Prices have fallen, but are not likely to decline further, private enterprise will supply the market.	About one-half the population consists of cultivators, one-fourth of artisans and traders, and the rest of labourers, mendicants, &c. A fair proportion of the first two classes is well off. There are no large landholders, but the sowkars will aid the people.	There has been no noticeable emigration, and none is expected.	The Enandol-Meheji and Jalgaon-Girna River roads are in progress. If a further grant is made for the former, and the latter is extended to Dhara-gaon or Amalner, they will prove ample.	The infirm poor receive gratuitous support from Government funds, aided by private contributions.	At present there are 125 people supported on works, and 40 by charity. The number requiring support will be on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>- 1,000</td><td>100</td></tr><tr><td>1st May</td><td>- 1,500</td><td>150</td></tr><tr><td>1st July</td><td>- 2,000</td><td>150</td></tr></table>		On Works.	By Charity.	1st March	- 1,000	100	1st May	- 1,500	150	1st July	- 2,000	150
	On Works.	By Charity.															
1st March	- 1,000	100															
1st May	- 1,500	150															
1st July	- 2,000	150															

H. T. Ommaney's Report, dated 7th January 1877).

There is at present a six months' supply of grain in store. It is imported from the Chalisgaon railway station and the Nizam's dominions. Private enterprise will supply the market, but prices are not likely to fall further.	Out of a population of 45,000, 33,750 are high, and 11,250 low caste. About one-half may be put down as fairly well off. There are 9,000 cultivators, a small proportion of whom combine other occupations with agriculture. There are no large landholders.	There has been no noticeable emigration, and none is anticipated.	There are no relief works in progress at present; it will, however, be necessary to start one shortly, and improving the Utrán Ghát road to the foot of the ghát is proposed. Should another work be necessary, the Chalisgaon-Lohara road can be improved between Ozur and Waghi.	Demands for charitable aid are met by voluntary subscriptions.	At present Government have no people to support. Relief on works may be sought by— On 1st March - 500 " 1st May - 1,000 " 1st July - 1,000 The spontaneous liberality of the richer people will obviate all necessity for Government charity.
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H. T. Ommaney's Report, dated 7th January 1877).

ere are at present about 344,000 lbs. of grain in store; it is imported by rail and from the Nizam's territories. Private enterprise will supply the market, but prices are unlikely to fall.	One-half the population is well off, and the other half poor. Of the latter, three-fourths are cultivators and one-fourth labourers. One or two large landholders will probably aid their tenants.	No emigration has taken place, and none is expected.	The road from Páchora to the Titur River is in progress. On its completion, portions of the Chálisgaon-Lo-hara road will be undertaken.	No expenditure on charity has been incurred.	At present there are 124 persons, chiefly immigrants, on the Páchora road. There will probably be on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>- 300</td><td>50</td></tr><tr><td>1st May</td><td>- 500</td><td>50</td></tr><tr><td>1st July</td><td>- 500</td><td>50</td></tr></table>		On Works.	By Charity.	1st March	- 300	50	1st May	- 500	50	1st July	- 500	50
	On Works.	By Charity.															
1st March	- 300	50															
1st May	- 500	50															
1st July	- 500	50															

Assistant Collector Mr. H. T. Ommaney's Report, dated 7th January 1877.)

he local stocks of grain are not large, but there is no fear of any scarcity. Supplies are imported by rail and from the Nizam's territory. A fall in prices is not anticipated.	The poorer class preponderates over the wealthier. The population, except in the town of Bhadgaon, is almost purely agricultural. There are no large landholders.	No noticeable emigration has taken place, and none is anticipated.	Three relief works are in progress. On their completion, the people must go on to the Chālisgaon - Lohara road.	No gratuitous support has yet been given.	There are 330 persons now on works. The numbers for relief are, on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>- 500</td><td>50</td></tr><tr><td>1st May</td><td>- 500</td><td>50</td></tr><tr><td>1st July</td><td>- 500</td><td>50</td></tr></table>		On Works.	By Charity.	1st March	- 500	50	1st May	- 500	50	1st July	- 500	50
	On Works.	By Charity.															
1st March	- 500	50															
1st May	- 500	50															
1st July	- 500	50															

Statistics
relating to
distressed
districts in
Bombay
Presidency.

KHANDEIS

a.	b.	c.	d.	e.
VIRDEL Taluka (District Deputy Collector)				
The kharif yield is estimated at from 8 pies to 8 annas, and the rabi from 1 to 6 annas. There are no prospects of further sowings this season.	The total amount of land revenue is not given, but the Collector estimates the remissions at Rs. 25,000.	There has been no mortality amongst the cattle, and none is anticipated, as Government have thrown open the forest-grazing.	The water-supply is chiefly derived from rivers and good wells, and is on the whole sufficient to last till the next monsoons. There will, however, be scarcity in about eight villages, in which wells must be cleared and deepened.	Prices—Lbs. per R.
				For the Week ending
				Bajri. Jowari. Wheat.
				7th October 1876 - 37 43 38
				15th " - 30 36 28
				22nd " - 28 41 27
				31st " - 24 32 23
				7th November 1876 - 25 32 26
				15th " - 24 27 23
				22nd " - 23 28 22
				30th " - 23 34 24
				7th December 1876 - 23 34 26
				15th " - 23 34 26
				22nd " - 23 36 24
				31st " - 23 34 25
				6th January 1877 - 23 34 24
				Average of six years - 42½ 52½ 35½

SHIRPUR Taluka (District Deputy Collector)				
The kharif crop is from 2 to 10, and the rabi from 1 to 6 annas. There will be no further sowings this season.	About Rs. 55,000 will probably have to be remitted. The total revenue is not stated.	There has been no unusual mortality among cattle, and none is anticipated. Fodder is plentiful.	There is no fear of the water-supply failing at present. But in 24 villages wells will have to be cleared out and deepened before the hot season.	Prices—Lbs. per R.
				For the Week ending
				Bajri. Jowari. Wheat.
				7th October 1876 - 36 37 34½
				15th " - 29½ 45 26
				22nd " - 28½ 41½ 27½
				31st " - 24½ 32½ 23½
				7th November 1876 - 25½ 34½ 24½
				15th " - 23½ 32½ 23½
				22nd " - 23½ 32½ 23½
				30th " - 26 30 24
				7th December 1876 - 32 34½ 27½
				15th " - 28½ 34½ 25½
				22nd " - 28½ 31 24
				31st " - 23½ 34½ 25
				6th January 1877 - 23½ 34½ 25
				Average of six years - 46 54 34

NUSSEERABAD Taluka (2nd Assistant Collector)				
The yield of the kharif crop is 4½, and that of the rabi 3 annas. There will be no further sowings this year.	Rs. 65,000 will have to be remitted out of a revenue demand of Rs. 2,11,532.	Mortality among the cattle and agricultural stock has as yet been little more than nominal; but it is expected that many will die from want of fodder and water before the end of the hot weather. The cultivators are taking every precaution for the preservation of their cattle, and have secured large stocks of hay, and all the cattle not in immediate use have been sent to the hills and forest reserves to graze. The Second Assistant can suggest no further remedies than those already adopted by Government.	The only sources of water-supply are rivers and wells; many of the latter will soon run dry. Deepening them and digging pits in beds of rivers are the only remedial measures possible.	Weekly Prices—per Rupee.
				Date.
				Bajri. Jowari. Wheat.
				1st week, October 1876 - 32 44½ 31
				2nd " - 22 37 27½
				3rd " - 28½ 34½ 23½
				4th " - 27½ 37 24
				1st week, November 1876 - 25 27½ 20½
				2nd " - 25 31 20½
				3rd " - 25 31 20½
				4th " - 28½ 32½ 24
				1st week, December 1876 - 28½ 32½ 24
				2nd " - 28½ 34½ 24½
				3rd " - 30½ 34½ 27½
				Average of six years - 49½ 58½ 33½

CHOPRA Taluka (2nd Assistant Collector Mr. J. P.)				
The kharif crop is estimated at 6, and the rabi at 2½ annas.	Out of a revenue demand of Rs. 1,60,482, about Rs. 50,000 will probably have to be remitted.	No unusual mortality has occurred among cattle and agricultural stock, but it is anticipated that before the end of the hot weather many will die from want of fodder and water. All the cattle not in immediate use have been sent into the hills and forest reserves to graze. The Second Assistant is not prepared to suggest any further action in the matter.	The only sources of water-supply are rivers and wells. Many of these wells will run dry before the end of hot season. The only remedial measures possible to improve the water-supply are deepening the wells and digging pits in the beds of streams.	Weekly Prices—per Rupee.
				Year 1876.
				Bajri. Jowari. Wheat.
				1st week, October 1876 - 36½ 41½ 31½
				2nd " - 30½ 33 28½
				3rd " - 30½ 33 27½
				4th " - 28½ 33 24½
				1st week, November 1876 - 28½ 31½ 23½
				2nd " - 28½ 28½ 20½
				3rd " - 28½ 33 23½
				4th " - 28½ 33 23½
				1st week, December 1876 - 31 33 24½
				2nd " - 28½ 31½ 24½
				3rd " - 28½ 30 25½
				Average of six years - 53 52 35

inued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>												
Shriniwas Balaji's Report, dated 8th January 1877).																	
Lies of grain can be own from the railway cons. of Mhasawad Chálisgaon; and pri- enterprise will sup- the market.	The population, which is about 20,800, are for the most part high caste, Kunbis and Rájputs, and purely agricultural. About 1,300 are urban or artisan. About 10 large landholders may aid their ten- ants.	No emigration has taken place, and none is likely.	The present relief works, consisting of the Songir-Nándur- bar road and a tank, will prove sufficient.	No demands have yet been made for cha- ritable assistance, but the sum of Rs. 3,768 has been raised for the purpose by private subscriptions.	At present 1,219 persons are supported on the works, and none by charity. There will probably be, on— <table><tr><th></th><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>1st March</td><td>- 4,000</td><td>200</td></tr><tr><td>1st May</td><td>- 8,000</td><td>400</td></tr><tr><td>1st July</td><td>- 3,000</td><td>600</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	1st March	- 4,000	200	1st May	- 8,000	400	1st July	- 3,000	600
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	- 4,000	200															
1st May	- 8,000	400															
1st July	- 3,000	600															

Shriniwas Balaji's Report, dated 9th January 1877).

local stocks are estimated at 1,050 tons. Supplies are drawn from the province of Nimad, lying on the taluka, the large imports have lowered prices. Private enterprise will meet all demands.	The population consists chiefly of Bheels and Kolis, and is almost purely agricultural. The proportion of the urban or artisan to the whole agricultural class is about 2 per cent. There are few well-to-do people. There are 8 or 10 large landholders able to aid their tenants.	No emigration has taken place, and none is anticipated.	The only relief work in progress is the repairing of the Agra road. The Shirpur-Chopra road which has been sanctioned as a relief work will soon be started. If this proves insufficient the District Deputy suggests the repairing of the Shirpur - Sháhada and Amalner road.	The public have subscribed Rs. 1,537 for charitable relief, but none of this sum has yet been expended.	There are 286 persons on the hands of Government for relief on works, and 25 for gratuitous relief according to the Mámlatdár's report, but the District Deputy doubts the latter statement. The Mámlatdár estimates the number to be relieved by works at, on the— 1st March - - 300 1st May - - 700 1st July - - 600 The District Deputy, however, disputes the correctness of this estimate, and is of opinion that the numbers will be more than double; and that the numbers to be gratuitously relieved will be, on the— 1st March - - 100 1st May - - 300 1st July - - 400
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J. Pollen's Report, dated 30th December 1876).

trustworthy information is obtainable as to amount of the local stocks of grain, but they supposed to be small, importations will be necessary. Supplies to all local wants can readily procured from large markets of Jalna and Bhusawal.	The population is chiefly agricultural, and the vast majority of the cultivators are very much in debt; not more than 10 per cent. can commence agricultural operations without the aid of sowkars. The sowkars are the capitalists of the taluka, and many of them are large landholders, both able and willing to aid their constituents.	There has been no unusual emigration.	No large relief works have been started in this taluka.	About Rs. 50 have been spent in relieving travellers and the infirm poor; besides which, Rs. 1,000 have been granted for expenditure on light labour relief gangs, employed in improving the cleaned tracts in the taluka.	The number of persons relieved by works at date of report was 261 and by charity 25. The numbers expected to be on the works hereafter are— On 1st March - 3,000 " 1st May - 5,000 " 1st July - 2,000
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Report, dated 30th December 1876).

trustworthy information can be obtained as to the extent of the local stocks of grain, but they are believed to be small. It can, however, be stored in any quantity which may be required in the large markets of Gaon and Bhusawal.	The population is chiefly agricultural, and the vast majority of the cultivators are said to be hopelessly in debt; not more than 10 per cent. can commence agricultural operations without the aid of sowskars. They are the capitalists of the taluka. Many of them are large landholders, and are both able and willing to aid their constituents.	No unusual emigration has taken place.	No large relief works have been opened in this taluka.	About Rs. 50 have been spent in charitable relief to travellers and infirm poor in the larger towns. In addition to this, Rs. 1,000 have been granted for expenditure on light labour relief gangs. These gangs are employed in improving the cleaned tracts of the taluka.	The number of persons, whom Government had on their hands at date of report, was on works 378, on charity 39. The numbers on works will hereafter be— On 1st March - 700 „ 1st May - 1,200 „ 1st July - 1,000 The numbers, who may have to be relieved by charity, are not given.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.
SAUDA Taluka, with its Pethas of Yáwal and Ráver				
The kharif crop is estimated at 5½, and the rabi at 4½ annas.	The remissions will amount to about Rs. 57,000 out of a revenue demand of Rs. 2,78,743.	There has been no unusual mortality among cattle and agricultural stock, but before the end of the hot weather many deaths are anticipated from want of fodder and water. All the cattle not in immediate use have been sent into the hills and forest reserves to graze. The Second Assistant has no further suggestions to offer on this head.	The only sources of water-supply are rivers and wells; many of the latter will run dry before the end of the hot weather, and should be deepened. Jhiras also should be dug in the beds of rivers.	Year 1876.
				Weekly Prices—per Rupee.
				Báiri. Jowári. Wheat.
				1st week, October 1876 - 48 55 31
				2nd " " - 42½ 45½ 30
				3rd " " - 33½ 29½ 27½
				4th " " - 28½ 34 25½
				1st week, November 1876 26 34 22½
				2nd " " 25 27½ 22½
				3rd " " 25 30 24
				4th " " 31½ 31 24
				1st week, December 1876 31½ 31 24
				2nd " " 28½ 31 24
				3rd " " 28½ 31 24
				Average of six years - 41 45½ 29½

BHUSÁWAL Taluka (Assistant Collector)

The kharif and rabi yields will each be 8 annas. There are no prospects of further sowings this season.	The fixed land revenue is Rs. 2,50,000, and the probable remissions are Rs. 70,000.	No mortality has occurred amongst the cattle, nor is any anticipated.	In about 30 villages, where the wells and nullahs are dry, the people will have to go some distance to fetch water. It is proposed to excavate new wells and deepen old ones, and to attach cattle-troughs to them.	Date.	Prices—Lbs. per Rupee.					
					Wheat.	Báiri.	Jowári.	Pulse.	Oodida.	Moog.
				8th Oct. 1876	28	20½	42	28	28	28
				16th " "	29½	23	40½	28	28	31½
				22nd " "	29½	26½	35	26½	26½	28
				30th " "	29½	24½	35	26½	26½	28
				6th Nov. 1876	29½	22½	26½	22½	22½	29½
				13th " "	29½	22½	28	22½	22½	24½
				20th " "	24½	26½	31½	22½	22½	24½
				27th " "	24½	26½	31½	22½	22½	25
				4th Dec. 1876	24½	28	33½	22½	22½	28
				11th " "	26½	29½	33½	22½	22½	28
				18th " "	28	31½	33½	22½	22½	28
				25th " "	28	31½	33½	22½	22½	28
				Average of six years.	32½	40	49½	37½	—	—

GENERAL

Of the 15 talukas and three pethas, the crops in 10 seem fair and in eight indifferent. The proposed remissions amount to Rs. 4,66,000. The condition of the cattle, except in four talukas, appears satisfactory. The recent heavy rain in Khandesh has probably dissipated all fears regarding the water supply. No apprehensions are entertained regarding the grain supply. The majority of the population of this as of all other collectorates is either agricultural, or very intimately connected with agriculture. There has been scarcely any migration from the district. The chief relief works are the Dhulia-Pimpalner and Songir-Nandurbár roads. The expenditure upon charity has been very trifling.

The 7th February 1877.

continued.

Statistics
relating to
distressed
districts in
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Presidency.

f.	g.	h.	i.	j.	k.
Assistant Collector Mr. J. Pollen's Report, dated 30th December 1876).					
No reliable information is procurable as to the extent of the local stocks of grain, but they are supposed to be small. Grain, however, can be imported in any quantities required from Jalgaon and Bhusaval.	The population is chiefly agricultural, and the great majority of the cultivators are said to be deeply in debt; not more than 10 per cent. can commence agricultural operations without the aid of sowkars. These are the capitalists of the taluka, and many of them are large landholders, and both able and willing to aid their constituents.	There has been no unusual emigration.	Only small relief works are in progress.	Rs. 50 have been expended in relieving needy travellers and the infirm poor; besides which, Rs. 1,000 have been granted for expenditure on light labour relief gangs, who are employed in improving the cleaned tracts throughout the taluka.	The number employed on works at date of report was 325, and that relieved gratuitously 32. The numbers will hereafter be— On 1st March - 2,600 " 1st May - 3,700 " 1st July - 1,700

Mr. H. Woodward's Report, dated 11th January 1877).

the local stocks of grain are sufficient for the year; it can, if necessary, be imported from the Central Provinces, Berar, and Indore. Prices have fallen, and private enterprise will supply the market.	The population is mainly agricultural and very poor. There are no large landholders likely to aid their tenants.	A partial emigration has taken place in the direction of the Central Provinces, Indore, and Berar. Further emigration is expected.	The relief works now in progress, consisting of a tank and two roads, are sufficient. On their completion the only works which can advantageously be undertaken are deepening and excavating wells.	A sum of about Rs. 600 is available for charitable relief, but few demands have been made.	350 persons are being relieved on works, and 40 by charity. The estimate for the future is— <table><tr><td></td><td><i>On Works.</i></td><td><i>By Charity</i></td></tr><tr><td>1st March -</td><td>1,050</td><td>120</td></tr><tr><td>1st May -</td><td>2,100</td><td>240</td></tr><tr><td>1st July -</td><td>350</td><td>40</td></tr></table>		<i>On Works.</i>	<i>By Charity</i>	1st March -	1,050	120	1st May -	2,100	240	1st July -	350	40
	<i>On Works.</i>	<i>By Charity</i>															
1st March -	1,050	120															
1st May -	2,100	240															
1st July -	350	40															

OBSERVATIONS.

The number of labourers anticipated to be upon the hands of Government is—

On March 1st -	-	-	-	-	-	16,950
On May 1st -	-	-	-	-	-	28,200
On July 1st -	-	-	-	-	-	16,650

No return of the Jámner Taluka has been received; it is reported to be unaffected by scarcity.

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. M. MACPHERSON,
Under-Secretary to Government.

Statistics
relating to
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NORTHERN DIVISION.—REVENUE

NÁSÍK DISTRICT.—COLLECTOR

	TALUKAS.	Area in Square Miles.	Population.	Government realizable Revenue in 1875-76.
				Rs.
1. Násik	- - -	445	89,377	39,802
2. Sinnar	- - -	507	64,872	1,37,078
3. Igatpura	- - -	672	57,735	81,778
4. Dindori	- - -	560	68,626	1,15,823
5. Nipar	- - -	370	86,017	2,16,202
6. Chándor	- - -	299	50,130	83,509
7. Yeola	- - -	482	59,313	59,744
8. Nándgaon	- - -	424	30,230	55,782
9. Málegaon	- - -	774	62,716	1,59,091
10. Báglán	- - -	1,420	59,051	1,24,835
11. Kalwan	- - -	1,200	54,152	75,780
12. Peint State	- - -	960	47,033	45,571
Total	- - -	8,113	729,252	12,48,995

NÁSÍK - - - - -

a.	b.	c.	d.	e.
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CHANDOR Taluka (Second Assistant Collector Mr. F. L. Charles' Rep

				Date.	Prices—Lbs. per Rupee		
					Rice.	Bajri.	Wheat.
The kharif yield will be 9 annas, and the rabi 4 annas; vegetables and pepper will be sown hereafter in garden lands.	The land revenue is Rs. 31,045, of which about Rs. 25,000 will be remitted.	There has been no unusual mortality amongst the cattle. They are being sent to graze in Dindori and the hills near Chandor, where there is plenty of fodder. Government aid is unnecessary.	The water supply is failing. There are no large rivers, but a number of small nullahs, the flow of which has already stopped, though there are pools at intervals. In the hot weather water to the north of these nullahs will be scarce, and some villages will have to be abandoned on this account; but to the south water will be plentiful. Some wells will have water throughout the year, but others must be deepened.	1st to 15th Oct. 1876	21	30½	27½
				16th to 31st "	21	34½	24½
				1st to 15th Nov. 1876	18	24½	22
				16th to 30th "	21	24½	24½
				1st to 19th Dec. 1876	18	27½	27½
				Average of six years	20	43½	33½

NIPHÁD Taluka (Collector Mr. H. N. B. Erskin

				For the week ending	Prices—Lbs. per Rupee		
					Wheat.	Bajri.	Jowári.
The kharif yield will be 6 annas, and the rabi 5 annas. Indian corn, jowari for fodder, methi, carrots, ratala, onions, and vegetables will be sown in garden lands.	The remissions may perhaps be Rs. 80,000, but the Collector considers this high.	No cattle have died from starvation. The people have sown Indian corn and methi for the support of their cattle, and will afterwards sow "khonde." Some have brought grass from the Dindori and Chandor Talukas, whither cattle to the number of 3,000 have been sent to graze, as also to Baglan and Pimpalner. Government aid seems unnecessary.	There will be a scarcity of water from March to June in about 40 villages, to relieve which zirars should be dug in the beds of rivers at a cost of Rs. 500. Most of the villages have a good water supply from the Godavery and other smaller rivers, and as yet want is not felt.	7th October 1876	33	36	44
				15th "	31	27	38
				23rd "	30	27	36
				31st "	28	27	32
				7th November 1876	12	22	27
				15th "	12	20	26
				23rd "	12	22	26
				30th "	12	22	28
				7th December 1876	27	24	28
				15th "	27	24	28
				23rd "	27	24	28
				Average of six years	35½	40	—

OMMISSIONER—MR. L. R. ASHBURNER, C.S.I.

R. H. N. B. ERSKINE.

Statistics relating
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Rough proportion of <i>kharif</i> to <i>rabi</i> cultivation.		Average annual Rainfall.	Actual Rainfall this Season.
<i>Kharif.</i> Acres.	<i>Rabi.</i> Acres.	Inches.	Inches.
79,764	33,567	29.41	15.97
141,876	44,003	22.49	10.65
71,274	25,383	109.59	114.57
81,618	47,909	25.57	17.65
90,345	63,551	17.94	12.39
85,239	20,907	32.55	12.58
68,877	48,600	26.62	14.96
69,825	11,743	26.15	13.66
111,364	57,495	24.60	10.42
174,736	56,092	38.6	14.32
—	—	38.2	16.10
—	—	—	77.40
974,918	409,250	—	—

NÁSİK.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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thout date, forwarded with the Collector's Remarks, dated 6th January 1877).

o large stocks are kept. What is required for consumption is brought in by grain. Probably large exportations have taken place to the Deccan. Private enterprise will keep up the supply; if the grain is largely imported the prices will fall. No Government interference is deemed necessary.	The population is purely agricultural, being mainly Kunbis. In the southern villages the people are well off; in the north and east they are poor. The Chief of Vinchur is the only large landholder, and he may assist his tenants; no aid from other landholders is expected.	No emigration has taken or is likely to take place, except in the case of people in charge of cattle.	One roadwork and one tank have been undertaken. These will suffice for the month. On their completion the Assistant Collector proposes the road from Chandor to Munmad station. The Collector, however, is of opinion that no further works will be necessary.	Rs. 150 have been received to relieve the aged and infirm poor, but nothing has yet been spent. A committee will be appointed at Chandor to administer to travellers' wants.	The number of persons at date of report on the hands of Government for relief by works was 1,742; by charity none. There will be on— 1st March - - 3,000 1st May - - 3,500 1st July - 1,000 to 1,500 None are being supported by charity, and it is impossible to say if any such demands will be made.
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Report, dated 6th January 1877).

here is a stock of about 9,910 tons; 3,303 tons will probably be imported. Merchants will probably do all that is required to supply the taluka without Government interference. The Collector observes that a large stock of grain is unnecessary, as the G. I. P. Railway runs through the taluka.	The population is almost purely agricultural, and consists mainly of Kunbis. The Chief of Vinchur is the only large landholder likely to aid his tenants.	There has been no emigration; the people are moving towards the relief works.	Three small road-works are in progress, and two more are required.	Rs. 200 have been granted by Government to aid the helpless and Rs. 70 have been spent.	On works, 8,926; by charity, 80. 1st March, May, and July about 13,000.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.
IGATPURI Taluka (Assistant Collector Mr. J. A. Baines' Rep)				
The kharif and rabi yield may each be taken as 8 annas. There is no prospect of further sowings this season.	The remissions will be about Rs. 8,000.	There has been no unusual mortality amongst the cattle, and none is anticipated; precautions are, therefore, unnecessary.	There will be about six weeks scarcity of water, to relieve which it is proposed to deepen wells and to construct a dam across the Kadwa.	Prices—Lbs. per Rupee
				For the Week ending
				Rice. Wheat. Bajri. Jowari.
				7th Oct. 1876 - 32 $\frac{1}{2}$ 37 $\frac{1}{2}$ 36 $\frac{1}{2}$ 45 $\frac{1}{2}$
				14th " - 32 $\frac{1}{2}$ 39 $\frac{1}{2}$ 34 $\frac{1}{2}$ 45 $\frac{1}{2}$
				21st " - 32 $\frac{1}{2}$ 35 $\frac{1}{2}$ 33 $\frac{1}{2}$ 47 $\frac{1}{2}$
				28th " - 30 $\frac{1}{2}$ 31 $\frac{1}{2}$ 31 $\frac{1}{2}$ 45 $\frac{1}{2}$
				4th Nov. 1876 - 26 $\frac{1}{2}$ 23 $\frac{1}{2}$ 23 $\frac{1}{2}$ 35 $\frac{1}{2}$
				11th " - 26 $\frac{1}{2}$ 27 $\frac{1}{2}$ 26 $\frac{1}{2}$ 35 $\frac{1}{2}$
				18th " - 30 $\frac{1}{2}$ 29 $\frac{1}{2}$ 29 $\frac{1}{2}$ 37 $\frac{1}{2}$
				25th " - 35 35 35 37 $\frac{1}{2}$
				2nd Dec. 1876 - 32 $\frac{1}{2}$ 32 $\frac{1}{2}$ 32 $\frac{1}{2}$ 45 $\frac{1}{2}$
				9th " - 32 $\frac{1}{2}$ 31 $\frac{1}{2}$ 31 $\frac{1}{2}$ 45 $\frac{1}{2}$
				16th " - 32 $\frac{1}{2}$ 31 $\frac{1}{2}$ 31 $\frac{1}{2}$ 45 $\frac{1}{2}$
				23rd " - 34 $\frac{1}{2}$ 31 32 $\frac{1}{2}$ 46 $\frac{1}{2}$
				Average of four years - 34 $\frac{1}{2}$ 45 $\frac{1}{2}$ 61 $\frac{1}{2}$ 68 $\frac{1}{2}$

YEOLA Taluka (Second Assistant Collector Mr. F. L. Charles' Rep)

The kharif yield will be 4 to 5 annas, and the rabi 2 to 3 annas. No further sowings are expected, except a few plots of pepper and vegetables, and methi for fodder.	The revenue is Rs. 64,316-10-1, and the probable remissions will be Rs. 45,000.	No unusual mortality has occurred, but large numbers of cattle have been sent to the hills on the borders of Khandesh. Beyond this no measures have been taken, nor are any deemed necessary.	The water supply will probably fail in the hot weather, in which case the best remedial measure would be for the people to emigrate, as they have done in former years, to the banks of the Godavery. The Collector thinks that the water supply of the town of Yeola will prove sufficient.	Prices—Lbs. per Rupee
				Date.
				Rice. Wheat. Bajri. Tur Dall. Gram.
				15th October 1876 - 18 26 26 22 28
				31st " - 18 24 24 20 26 $\frac{1}{2}$
				15th November 1876 - 14 15 18 18 22 $\frac{1}{2}$
				30th " - 14 23 24 19 24
				15th December 1876 - 17 24 25 21 26
				Average of six years - — 20 $\frac{1}{2}$ 30 $\frac{1}{2}$ — 22 $\frac{1}{2}$

SINNAR Taluka (Supernumerary Assistant Collector Mr. J. A. Baines' Rep)

The yield of kharif and rabi is estimated at between 4 and 5 annas; the yield of each is not stated. There will be no further sowings this season.	The remissions will probably range between Rs. 80,000 and Rs. 1,00,000. The amount of the ordinary revenue is not given.	There has been no unusual mortality amongst the cattle, many of which have been sent away by the ryots to Khandesh and the hills to graze. Government interference will not be necessary.	There will be great scarcity of water in many villages, to alleviate which "Scindis" will have to be dug, and wells sunk, cleared, and deepened.	Prices—Lbs. per Rupee
				For the Week ending
				Bajri. Wheat. Rice. Jowari.
				8th October 1876 - 31 $\frac{1}{2}$ 31 $\frac{1}{2}$ 21 —
				15th " - 31 $\frac{1}{2}$ 31 $\frac{1}{2}$ 21 —
				22nd " - 28 $\frac{1}{2}$ 28 $\frac{1}{2}$ 21 37 $\frac{1}{2}$
				29th " - 28 $\frac{1}{2}$ 28 $\frac{1}{2}$ 21 37 $\frac{1}{2}$
				5th November 1876 - 28 $\frac{1}{2}$ 28 $\frac{1}{2}$ 21 37 $\frac{1}{2}$
				12th " - 23 23 15 28 $\frac{1}{2}$
				19th " - 25 $\frac{1}{2}$ 23 15 $\frac{1}{2}$ 28 $\frac{1}{2}$
				26th " - 25 $\frac{1}{2}$ 23 18 $\frac{1}{2}$ 31 $\frac{1}{2}$
				2nd December 1876 - 25 $\frac{1}{2}$ 23 18 $\frac{1}{2}$ 31 $\frac{1}{2}$
				10th " - 25 $\frac{1}{2}$ 25 $\frac{1}{2}$ 21 31 $\frac{1}{2}$
				17th " - 28 $\frac{1}{2}$ 25 $\frac{1}{2}$ 21 34 $\frac{1}{2}$
				24th " - 28 $\frac{1}{2}$ 25 $\frac{1}{2}$ 21 34 $\frac{1}{2}$
				Average of six years - 44 32 $\frac{1}{2}$ 23 $\frac{1}{2}$ 38 $\frac{1}{2}$

DINDORI Taluka (Acting Second Assistant Collector Mr. F. L. Charles' Rep)

The kharif yield may be taken at 6 to 7 annas, the rabi at 5 $\frac{1}{2}$ to 6 $\frac{1}{2}$, and the bagayat from 8 to 10. There are no prospects of further sowings this season, with the exception of a few isolated patches of vegetables.	The revenue is Rs. 1,15,578, and the remissions will probably amount to Rs. 40,000.	There has been no unusual mortality amongst the cattle, and none is anticipated.	Scarcity of water will be severely felt in those villages, 20 or 30 in number, which are dependent on wells alone for their supply. In such villages it will be necessary to deepen and clear the wells, and failing obtaining water by this means, the villagers must move to the nearest river.	Prices—Lbs. per Rupee
				For the Week ending
				Wheat. Bajri.
				1st October 1876 - 35 $\frac{1}{2}$ 35 $\frac{1}{2}$
				8th " - 33 33
				15th " - 30 $\frac{1}{2}$ 30 $\frac{1}{2}$
				29th " - 28 $\frac{1}{2}$ 27 $\frac{1}{2}$
				12th November 1876 - 23 22
				19th " - 24 $\frac{1}{2}$ 23 $\frac{1}{2}$
				26th " - 24 $\frac{1}{2}$ 27 $\frac{1}{2}$
				9th December 1876 - 24 $\frac{1}{2}$ 23 $\frac{1}{2}$
				16th " - 24 $\frac{1}{2}$ 24 $\frac{1}{2}$
				Average of six years - 38 $\frac{1}{2}$ 43

continued.

Statistics
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Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
without date, forwarded with Collector's remarks, dated 8th January 1877).					
There are no large stores of grain, but the Assistant Collector hopes to make arrangements with dealers for grain and fodder till the first rain falls.	The majority of the population are agriculturists, and about 3,000 are employed on railway works. Few only of the landholders are able to assist the labouring classes.	No emigration has taken place; but it is expected that after "Shinga" (27th and 28th February) many will go in search of a livelihood.	There are no relief works in progress, but the Sinner and Gori road will soon reach the taluka; it is, however, a small work, and the dam at Walvihir may have to be undertaken.	A few isolated instances of private charity have occurred.	As no relief works have been started, no correct estimate of the probable number requiring relief from Government can be framed.

without date, forwarded with Collector's Remarks, dated 4th January 1877).

There are no large stocks of grain in the taluka itself, but it can always be had in times of real scarcity from the Lasulgaon Railway Station, where piles of grain bags are stacked, and from the north via Manmad. Prices have fallen, and private enterprise will be able to supply the market.	The population of Yeola is almost wholly agricultural, the bulk of the people being Kunbis and Mhars. The town of Yeola itself contains 17,461 inhabitants, who are principally manufacturers. There are a few landholders, notably the Vinchurkur, who will aid their tenants.	Out of a population of 59,313, some 3,000 to 5,000, many of them weavers, have left for the neighbouring talukas and for Benares. Further emigrations are probable, unless relief works are started within the taluka.	There are at present no relief works in progress, but two roads will shortly be commenced.	No charitable relief has yet been deemed necessary.	None are employed on works, and none relieved by charity. The number Government will have to provide for will be on— <table><tr><th></th><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>1st March</td><td>5,000</td><td>100</td></tr><tr><td>1st May 7,000 to 8,000</td><td></td><td>150</td></tr><tr><td>1st July 2,000 to 3,000</td><td></td><td>200</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	1st March	5,000	100	1st May 7,000 to 8,000		150	1st July 2,000 to 3,000		200
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	5,000	100															
1st May 7,000 to 8,000		150															
1st July 2,000 to 3,000		200															

Report, without date, forwarded with Collector's Remarks, dated 8th January 1877).

The present store of grain is estimated by the Mamundar at about 74,000 lbs. The Assistant and Collector make no remarks in this estimate. The market will be supplied by private enterprise without any aid from Government.	No reliable information is procurable as to the number of high and low caste people. There are no landholders capable of aiding their tenants.	A few people have emigrated to Bombay and elsewhere in hopes of employment. Others will follow if relief works are started.	The relief work at Ghorwad is sufficient for the present, but two roads will shortly have to be commenced.	Out of Rs. 200 granted for charitable purposes, 97 persons have been relieved, each adult receiving 1 lb. of bajri, 4 ozs. of pulse, and 6 pies cash, and each child 8 ozs. bajri, and 1 oz. pulse, and 3 pies cash.	At present 6,000 people are being supported on the works, and 16 by charity. On 1st March 10,000 persons will require relief on works, on 1st May 14,000 to 15,000, and considerably less on 1st July. The firm requiring support on 1st March and 1st May will be about 150, and on 1st July 300.
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Report, forwarded with Collector's Remarks, dated 8th January 1877).

There is no deficiency of grain, but no estimate can be made of the stocks. Large importations are made from Niphad and the Point State. Prices have fallen, and private enterprise will supply the market.	The total population amounts to 68,626, and is almost purely agricultural. The people are chiefly Kolis, and are very poor, and much in debt. There are no landholders who will aid their tenants.	No unusual emigration has taken place, and none is expected.	No relief works are in progress at present; but it may be necessary to start three road works, and make approaches to the Kadwa River.	No charitable relief has yet been given.	No people at present on relief works. There will be probably on— 1st March 3,000 to 4,000; 1st May 4,500 to 5,000; and very few on 1st July.
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Statistics relating to distressed districts in Bombay Presidency.

NÁSIK

a.	b.	c.	d.	e.																																																																					
NÁSIK Taluka (Assistant Collector Mr. J. A. Baines' Rep																																																																									
The kharif yield will be 6, and the rabi 4 annas. There is no prospect of further sowings this season.	The revenue is Rs. 1,30,000, and the probable remissions Rs. 30,000.	There have been no deaths from starvation amongst the cattle. None have been sent elsewhere to graze, and no precautions are deemed necessary.	The water supply is less, and scarcity will be felt earlier than usual.	<table><tr><th rowspan="2">For the Week ending.</th><th colspan="4">Prices—Lbs. per Rupee</th></tr><tr><th>Rice.</th><th>Wheat.</th><th>Bajri.</th><th>Jowari.</th></tr><tr><td>4th October 1876</td><td>14</td><td>20</td><td>18</td><td>32</td></tr><tr><td>11th "</td><td>14</td><td>18</td><td>18</td><td>26</td></tr><tr><td>18th "</td><td>14</td><td>18</td><td>18</td><td>26</td></tr><tr><td>25th "</td><td>14</td><td>20</td><td>18</td><td>26</td></tr><tr><td>1st November 1876</td><td>12</td><td>14</td><td>14</td><td>20</td></tr><tr><td>8th "</td><td>11</td><td>16</td><td>14</td><td>20</td></tr><tr><td>15th "</td><td>12</td><td>16</td><td>16</td><td>20</td></tr><tr><td>22nd "</td><td>12</td><td>17</td><td>16</td><td>21</td></tr><tr><td>29th "</td><td>12</td><td>18</td><td>17</td><td>21</td></tr><tr><td>6th December 1876</td><td>12</td><td>18</td><td>17</td><td>23</td></tr><tr><td>13th "</td><td>13</td><td>17</td><td>17</td><td>24</td></tr><tr><td>Average of six years</td><td>22³/₄</td><td>29³/₄</td><td>43¹/₂</td><td>49³/₄</td></tr></table>	For the Week ending.	Prices—Lbs. per Rupee				Rice.	Wheat.	Bajri.	Jowari.	4th October 1876	14	20	18	32	11th "	14	18	18	26	18th "	14	18	18	26	25th "	14	20	18	26	1st November 1876	12	14	14	20	8th "	11	16	14	20	15th "	12	16	16	20	22nd "	12	17	16	21	29th "	12	18	17	21	6th December 1876	12	18	17	23	13th "	13	17	17	24	Average of six years	22 ³ / ₄	29 ³ / ₄	43 ¹ / ₂	49 ³ / ₄
For the Week ending.	Prices—Lbs. per Rupee																																																																								
	Rice.	Wheat.	Bajri.	Jowari.																																																																					
4th October 1876	14	20	18	32																																																																					
11th "	14	18	18	26																																																																					
18th "	14	18	18	26																																																																					
25th "	14	20	18	26																																																																					
1st November 1876	12	14	14	20																																																																					
8th "	11	16	14	20																																																																					
15th "	12	16	16	20																																																																					
22nd "	12	17	16	21																																																																					
29th "	12	18	17	21																																																																					
6th December 1876	12	18	17	23																																																																					
13th "	13	17	17	24																																																																					
Average of six years	22 ³ / ₄	29 ³ / ₄	43 ¹ / ₂	49 ³ / ₄																																																																					

MALIGAON Taluka (Acting First Assistant Collector)

The kharif yield will be 6, and the rabi 2 annas. There are no prospects of further sowings this season.	The probable remissions are Rs. 40,000. The total revenue is not given.	There has been no unusual mortality among the cattle, and none is anticipated.	About Rs. 5,000 may be required for deepening wells.	Price — Lbs. per Rupee				
				Bajri.	Jowari.	Wheat.	Rice.	
				For each Week in Oct., Nov., and Dec. 1876.				
				1st week Oct. 1876	- 20	25	21	37½
				2nd "	- 18	21	21	37½
				3rd "	- 17	21	18	37½
				4th "	- 18	22	21	37½
				1st week Nov. 1876	- 15	18	14	37½
				2nd "	- 15	18	15	37½
				3rd "	- 20	18	15	37½
				4th "	- 17	21	16	37½
				1st week, Dec. 1876	- 18	21	16	37½
				2nd "	- 18	21	17	37½
3rd "	- 18	21	17	37½				

NANDGAON Taluka (Acting First Assistant Collector)

The kharif yield will be 10, and the rabi 4 annas. There are no prospects of further sowings this season.	The probable remissions are Rs. 2,500. The total revenue is not given.	There has been no unusual mortality among the cattle, and none is anticipated. About 2,000 animals have been sent for grazing to the Chalisgaon Taluka, Khandesh.	It may be necessary to expend about Rs. 4,000 in improving the wells of 15 villages.	Prices—Lbs. per Rupee				
				For each week in Oct., Nov., and Dec. 1876.				
				Rice.	Bajri.	Jowari.	Wheat.	
				7th October 1876				
				15th	21	35	42	32
				22nd	21	28	35	28
				31st	21	28	35	25
				7th November 1876				
				15th	17½	21	28	21
				23rd	18½	22	35	24½
				30th	19	22	35	26½
				7th December 1876				
				15th	16½	28½	31½	24½
22nd	17½	31½	35	28				
Average of six years				46	17½	32½	55	

BAGLAN Taluka (Acting First Assistant Collector)

The kharif yield will be 6, and the rabi 3 annas.	The probable remissions are Rs. 10,000. The total revenue is not given.	No unusual mortality among the cattle has occurred or is anticipated. About 10,000 animals have been sent to the Dangs, and the Pampalneir taluka, Khandesh.	The supply of drinking water is sufficient.	Prices—Lbs. per Rupee				
				For the Week ending				
				Wheat.	Rice.	Bajri.	Nagli.	
				7th October 1876	32 ¹ / ₂	16 ¹ / ₂	35 ¹ / ₂	37 ¹ / ₂
				15th "	25 ¹ / ₂	16 ¹ / ₂	25 ¹ / ₂	37 ¹ / ₂
				22nd "	25 ¹ / ₂	16 ¹ / ₂	25 ¹ / ₂	37 ¹ / ₂
				29th "	25 ¹ / ₂	16 ¹ / ₂	25 ¹ / ₂	37 ¹ / ₂
				5th November 1876	25 ¹ / ₂	16 ¹ / ₂	25 ¹ / ₂	37 ¹ / ₂
				12th "	22 ¹ / ₂	15 ¹ / ₂	23 ¹ / ₂	37 ¹ / ₂
				19th "	22 ¹ / ₂	15 ¹ / ₂	23 ¹ / ₂	37 ¹ / ₂
				26th "	22 ¹ / ₂	15 ¹ / ₂	24 ¹ / ₂	37 ¹ / ₂
				3rd December 1876	23 ¹ / ₂	15 ¹ / ₂	24 ¹ / ₂	37 ¹ / ₂
				10th "	23 ¹ / ₂	16 ¹ / ₂	24 ¹ / ₂	37 ¹ / ₂
17th "	23 ¹ / ₂	16 ¹ / ₂	24 ¹ / ₂	37 ¹ / ₂				
24th "	23 ¹ / ₂	19 ¹ / ₂	21 ¹ / ₂	37 ¹ / ₂				
29th "	23 ¹ / ₂	19 ¹ / ₂	24 ¹ / ₂	37 ¹ / ₂				
Average of six years -				35 ¹ / ₂	17 ¹ / ₂	45 ¹ / ₂	49 ³ / ₄	

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
forwarded with Collector's Remarks, dated 6th January 1877).					
There is plenty of grain in the taluka, and the railway is at hand to bring whatever may be required. The rates will probably rise after the grain has begun to move from Bombay and other centres. Private enterprise will be equal to the demand.	There is no reliable information on this point. There are no large landholders capable of assisting their tenants.	No emigrations have yet taken place from the villages. The people earn a few pice from the sale of wood and grass, and refuse to labour on distant relief works. Those on the Ghâts may possibly emigrate, but at present they have no such intention.	No relief works are in progress, but the work of metalling the Násik and Trimback road and digging a large tank may shortly have to be undertaken.	No charitable aid has yet been given, and none will probably be necessary.	No persons are maintained by Government either by charity or on relief works. No estimate for the future can be framed.

Mr. W. Woodward's Report, dated 8th January 1877).

he local stocks of grain are estimated at 740,000 lbs. Supplies are imported by railway from Nandgaon. Prices may fall, and private enterprise will supply the market.	The people are chiefly agricultural, with a sprinkling of well-to-do high caste people. There are no large landholders likely to assist their tenants.	No unusual emigration has taken place and none is anticipated.	No relief works are in progress at present, but it may be necessary before long to commence the Malegaon-Nandgaon road and some tanks.	A grant of Rs. 200 for charitable expenditure in the taluka has been made. But none of it has yet been spent.	At present no persons are on the hands of Government for relief either by works or charity. It is possible that later on in the year there may be 5,000 people on relief works.
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Mr. W. Woodward's Report, dated 8th January 1877).

The grain supply is ample; the railway station at Nandgaon is the centre for imports. Prices have fallen since October, but are likely to rise three or four months before the harvest. Private enterprise will supply the market.	The population is chiefly agricultural. There are no large landholders able to help their tenants if required.	There has been no emigration, and none is anticipated.	No relief works are at present in progress; but in March it may be necessary to commence the Malegaon-Nandgaon road, and the Rájpur Ghát between Nandgaon and Yeola.	No charitable relief has been necessary. A grant of Rs. 150 is available when required.	At present there are no persons on the hands of Government for relief either on works or by charity. The numbers on relief works may be on— 1st March - - 500 " May - - 1,100 " July - - 1,300
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Mr. W. Woodward's Report, dated 29th December 1876).

Each village has its own stock, and the amount in the taluka will probably prove sufficient.	The population is chiefly agricultural. There are no large landholders able to aid their tenants, if required.	No emigration has taken place, and none is anticipated.	No relief works are in progress; but the road from Bhawarbari to Satara will soon be commenced.	No charitable expenditure has been incurred.	There are at present no persons on relief works, and at the worst period there are not likely to be more than 2,000 people on them.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.							
KALWAN Taluka (Acting First Assistant Collector Mr. W. Woodw											
The kharif yield will be 8, and the rabi 8 annas. No further sowings will take place this season.	The probable remissions are Rs. 9,000. The total revenue is not given.	No unusual mortality among the cattle has taken place or is anticipated. The people of the eastern villages have, however, sent their cattle towards the Dangs.	The water-supply is sufficient.	Prices—Lbs. per Ru							
				For the Week ending							
				Wheat.	Bajri.	Jowari.	Rice.				
				7th October 1876	32 ² / ₇	35 ¹ / ₂	—	21 ³ / ₄			
				15th "	34 ⁵ / ₇	32 ¹ / ₂	32 ¹ / ₂	20 ³ / ₄			
				22nd "	26 ² / ₇	27 ¹ / ₂	—	19 ¹ / ₂			
				29th "	33 ¹ / ₇	28 ¹ / ₂	32	21 ³ / ₄			
				5th November 1876	26 ³ / ₇	29 ¹ / ₂	—	21 ³ / ₄			
				12th "	26 ¹ / ₇	30	32	21 ³ / ₄			
				19th "	24 ⁶ / ₇	27 ³ / ₄	27 ¹ / ₂	19 ¹ / ₂			
				26th "	25 ³ / ₇	27 ³ / ₄	—	14 ¹ / ₂			
				3rd December 1876	24 ¹ / ₇	28 ¹ / ₂	27 ¹ / ₂	17 ¹ / ₂			
				10th "	24 ¹ / ₇	26 ³ / ₄	—	19 ¹ / ₂			
				17th "	24 ³ / ₇	28 ¹ / ₂	26 ³ / ₄	18 ³ / ₄			
				22nd "	25	27 ¹ / ₂	32 ¹ / ₂	17 ¹ / ₂			
				Average of six years -				33 ¹ / ₇	43 ¹ / ₂	—	23 ¹ / ₂

GENE

Of the 11 talukas the crops in eight seem fair, and in three indifferent.
The proposed remissions amount to Rs. 3,69,500.
The condition of the cattle throughout the Collectorate appears satisfactory.
In five talukas the prospects of the water-supply seems satisfactory, and in six indifferent. No calamity due to fa
of water is anticipated by Government.
No apprehensions are entertained regarding the grain supply.
The majority of the population of this, as of all other Collectorates, is either purely agricultural, or very intima
connected with agriculture.
There has been very little emigration.
The chief relief works are the Bawarbari-Vinchur, Kapralla Ghát, Vinchur-Niphar, and Niphar-Deopur roads.

The 3rd February 1877.

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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Report forwarded with Collector's Remarks, dated 16th January 1877).

There is enough grain in the taluka for its wants.	The population is almost entirely agricultural. There are no large landholders who could help their tenants, were it required.	No emigration has taken place, and none is anticipated.	In September and October a few small works were undertaken for the relief of the Bheels. The pressure lasted only till the kharif harvest commenced. In March it may be necessary to commence the Diwathari Kalwan road.	No expenditure has been incurred on charitable relief.	No persons are at present on the hands of Government, and it is doubtful whether there will be any. At the outside there may be 500 on relief works where the pressure is the greatest.
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OBSERVATIONS.

The expenditure upon charity has been very trifling.

The number of labourers anticipated to be upon the hands of Government is about—

On March 1st	-	-	-	-	-	-	43,000
On May 1st	-	-	-	-	-	-	53,100
On July 1st	-	-	-	-	-	-	36,300

This Government must guard themselves against the supposition of being held to accept, as accurate or reliable, all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under-Secretary to Government.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

SOUTHERN DIVISION.—REVENUE

AHMEDNAGAR DISTRICT.—COLLECTOR

	TALUKAS.	Area in Square Miles.	Population.	Government. realisable Revenue in 1875-76.
				Rs.
1.	Nagar - - -	548	109,888	1,32,838
2.	Párner - - -	731	82,422	1,12,500
3.	Shrigonda - - -	610	64,936	1,17,726
4.	Karjat - - -	567	48,766	} 2,07,464
5.	Jámkhed - - -	550	72,994	
6.	Sheogaon - - -	682	83,226	1,52,406
7.	Newása - - -	621	62,418	1,29,815
8.	Ráhuri - - -	469	59,093	1,34,536
9.	Kopargaon - - -	505	60,839	1,32,831
10.	Sangamner - - -	688	68,765	1,24,110
11.	Akola - - -	676	60,591	77,814
Total	- - -	6,647	773,938	13,22,040

AHMEDNAGAR

a.	b.	c.	d.	e.
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KOPARGAON Taluka (2nd Assistant Collect

5 to 6 annas will be the yield of the kharif, and 2 annas that of the rabi crop. No prospect of further sowings this season.	The Assistant Collector estimates the remissions at Rs. 78,000, which estimate the Revenue Commissioner considers too high.	No cattle are known to have died from starvation. At the commencement of the scarcity many were sent into the Konkan. The cultivators who have irrigated land are sowing kadwal. Rs. 650 have been given as tagai advances to assist in the purchase of fodder and the improvement of existing wells.	One-third of the villages are situated on or near the Godáviri, and will be well supplied unless the river runs dry. The greater number of the other villages have wells which, with a little outlay, will last for the season. Some few villages are situated on nalas which have already dried. Zirars are being dug; and if this source should fail, the villages will probably be abandoned for the season.	For the Week ending	Prices—Lbs. per Rupee		
					Jowári.	Bajri.	Wheat.
				1st week in October 1876	42	33	33
				2nd			

SANGAMNER Taluka (2nd Assistant Collect

The kharif 6 annas, rabi 2 annas. There will be no further sowings this season.	About Rs. 76,000	About 300 cattle have died since September, the greater number probably from starvation. Many more will succumb as the season advances. The cultivators who have sufficient water are sowing kadwal. Rs. 750 have been granted as tagai for the purchase of fodder.	The water-supply is rapidly failing. Digging wells and tanks will be useful. Bunding a stream at Pokhvi at a cost of Rs. 5,600 would give water to a few villages and provide work for many persons. Rs. 2,000 have been granted as tagai for wells.	For the Week ending	Prices—Lbs. per Rupee		
					Bajri.	Jowari.	Wheat.
				1st week in October 1876	27	30	24
				2nd " " " "	27	30	25½
				3rd " " " "	27	33	27
				4th " " " "	26½	33	25½
				1st week in Nov. 1876	25½	31½	24
				2nd " " " "	24	30	22½
				3rd " " " "	24	30	24
				4th " " " "	25½	31½	24½
				1st week in Dec. 1876	27	33	26½
				2nd " " " "	27	33	27
				Average of six years	61½	75½	37½

COMMISSIONER—MR. E. P. ROBERTSON.

H. E. JACOMB.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Rough Proportion of <i>kharif</i> to <i>rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
73,855	120,903	27·99	8·64
133,433	102,298	23·3	8·28
56,491	176,968	28·12	15·29
49,242	127,795	21·38	6·70
81,054	62,266	28·76	8·77
95,232	125,506	29·34	20·0
47,875	149,271	24·57	13·49
68,836	104,373	23·6	10·57
90,534	143,159	23·57	10·5
154,679	56,879	20·16	6·45
136,984	11,925	21·53	8·98
988,215	1,181,343	—	—

AHMEDNAGAR.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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Mr. F. S. Hamilton's Report, dated 21st December 1876).

the 12 largest villages of more than about 350 houses are stored. Mammád, on the G. I. P. Railway, is 30 miles from Kopar-gaon, and grain is brought thence in large quantities into the taluka. Prices will probably fall before long, and there is little fear of any subsequent considerable rise.	Out of 72,000 people, about 50,000 are high caste, about 11,000 are purely agricultural, and about 5,000 combine agriculture with other occupations. There are only three considerable landholders, and there is no chance of their assisting their tenants.	About 18,000 people have left the taluka. None have returned, nor is it known whether they have bettered themselves. 1,000 more may yet migrate.	Three large road works are in progress, and three more may be undertaken on their completion. Tanks and prickly-pear may also be cleared, but sufficient work for more than two months cannot be found, unless the Dhond and Mammád Railway or some large irrigation work on the Godáveri be commenced.	So far no large sums have been given in charity, what has been given has been raised from private subscriptions. Government have made a grant which will be availed of later in the season as the distress increases.	On works 3,500. By charity 20. If only men belonging to the taluka be employed, the number will be about 5,000 on 1st March, 6,000 on 1st May, and probably none on 1st July, if rain falls seasonably. The plan of transferring labourers from one taluka to another will interfere with the calculation of each taluka.
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Mr. F. S. Hamilton's Report, dated 23rd December 1876).

There are very small stocks in the taluka, but grain comes from the Central Provinces via Deolali on the G. I. P. Railway. Competition is active, and there is no fear of prices being fictitiously forced up.	The whole population 81,000 (except that of the chief town) is agricultural. About 1,000 combine trade with agriculture. There are no large landholders likely to aid their tenants.	Out of a population of 81,000, about 7,000 have left in search of work. Perhaps 3,000 or 4,000 more will go.	Four main roads are in progress. The Dhond and Mammád Railway would afford relief to the whole of the taluka. The Pokhvi tank would also be a useful work to undertake.	About Rs. 138 have been spent on charity. A travellers' grain depôt has been opened at Ambi Ghargaon on the Poona and Násik road. Private subscriptions have been raised. Government aid will be required in the hot weather.	On works 5,620. By charity 111. On 1st March 8,000. On 1st May 10,000, and probably none in July.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.																																																			
PARNER Taluka (2nd Assistant Collect																																																							
2½ annas of kharif crop, 2 annas of rabi. No prospect of further sowings this season.	About Rs. 90,000	No cattle have died from starvation. Many have been sent to graze on the Ghâts. The cultivators who have water enough are sowing kadwal to support their bullocks in the hot season. Rs. 2,785 have been granted as tagai for the purchase of fodder and the deepening of wells.	Unless rain falls about Christmas the scarcity of water will prove fatal to cattle, and possibly to human beings. There is no large river, and the small streams are drying up. The villages to the western edges of the central plateau will be uninhabitable during the hot weather; those at the foot of the ravine will be best off. It is proposed to excavate a tank at Parner. Rs. 958 were given in various villages for improving their water-supply; large bandaras for irrigation purposes might be made at Reewooli and Apdhup Dhond. The Collector opposes the earthen dam advocated by his Assistant, unless competent professional aid is available.	<table><tr><th rowspan="2">For the Week ending</th><th colspan="3">Prices—Lbs. per Rupee</th></tr><tr><th>Bajri.</th><th>Jowari.</th><th>Wheat.</th></tr><tr><td>1st week in October 1876</td><td>28½</td><td>30</td><td>24</td></tr><tr><td>2nd " " "</td><td>28½</td><td>30</td><td>24</td></tr><tr><td>3rd " " "</td><td>27</td><td>30</td><td>24</td></tr><tr><td>4th " " "</td><td>27</td><td>30</td><td>21</td></tr><tr><td>1st week in Nov. 1876</td><td>25½</td><td>30</td><td>21</td></tr><tr><td>2nd " " "</td><td>24</td><td>27</td><td>21</td></tr><tr><td>3rd " " "</td><td>22½</td><td>27</td><td>19½</td></tr><tr><td>4th " " "</td><td>21</td><td>24</td><td>19½</td></tr><tr><td>1st week in Dec. 1876</td><td>24</td><td>27</td><td>21</td></tr><tr><td>2nd " " "</td><td>24</td><td>28½</td><td>21</td></tr><tr><td>Average of six years</td><td>45</td><td>59½</td><td>31½</td></tr></table>	For the Week ending	Prices—Lbs. per Rupee			Bajri.	Jowari.	Wheat.	1st week in October 1876	28½	30	24	2nd " " "	28½	30	24	3rd " " "	27	30	24	4th " " "	27	30	21	1st week in Nov. 1876	25½	30	21	2nd " " "	24	27	21	3rd " " "	22½	27	19½	4th " " "	21	24	19½	1st week in Dec. 1876	24	27	21	2nd " " "	24	28½	21	Average of six years	45	59½	31½
For the Week ending	Prices—Lbs. per Rupee																																																						
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3rd " " "	22½	27	19½																																																				
4th " " "	21	24	19½																																																				
1st week in Dec. 1876	24	27	21																																																				
2nd " " "	24	28½	21																																																				
Average of six years	45	59½	31½																																																				

KARJAT Taluka (Supernumerary Assistant Collector)

				For each Week in October, November, and December.	Prices—Lbs. per Rupee			
					Jowari.	Bajri.	Wheat.	Rice.
In garden lands the kharif yielded 4 annas and the rabi 4 annas. There was no jirayat crop whatever, either kharif or rabi. There will be no further sowings this season.	The land revenue is Rs. 64,326, of which Rs. 52,543 will have to be remitted.	Of the 24,012 plough bullocks, half have been taken to the valley of the Godavari and places north, where some have died, and others have been sold. Of the remainder, about 6,000 have already died, and 1,000 more may yet succumb. Nearly all the remaining cattle have been sent away. A large number have no doubt died, or been sold for trifling sums. Rs. 1,350 tagai have been given to help to purchase forage.	The water-supply is reduced by a half and will be very scarce in the hot weather. Wells are being cleared and deepened, and ziras in the beds of streams opened.	1st week in October	31	30	26	18
				2nd " " "	31	30	26	18
				3rd " " "	27	24	23	15
				4th " " "	27	24	23	15
				1st week in November	24	21	21	12
				2nd " " "	24	21	21	12
				3rd " " "	24	21	21	12
				4th " " "	24	21	21	12
				1st week in December	24	21	21	15
				2nd " " "	24	22	21	13
				3rd " " "	25	24	21	13
				Average of six years	58½	46½	33½	16

SHRIGONDA Taluka (Supernumerary Assistant Collector)

				Date.	Prices—Lbs. per Rupee		
					Wheat.	Jowari.	Bajri.
The kharif yield was 9 pies and the rabi 9 pies. No prospect of any further sowings except "kadwal" in garden land for forage.	The land revenue is Rs. 1,08,000, of which Rs. 90,000 will have to be remitted.	It is impossible to give a correct estimate of mortality amongst the cattle. As soon as the forage failed, all the cattle, except those used for gardens, were taken to the Gungathori, or to the Nizam's territory, where many died or were sold for trifling sums. Some are returning in a worn-out state and will probably die. The bullocks used for drawing water will probably be saved. Advances from tagai have been made to about 30 people. Some well-to-do persons have imported grass from the Konkan. The people have been shown how to prepare prickly-pear, but the process is too expensive to be adopted.	The water-supply for drinking purposes has not yet failed, but will be scarce before the next rains. All the small streams are dry, but there is water in the Bhima, Hanja, and Gornadi rivers. Wells can be deepened and ziras excavated to provide water in the hot weather.	15th Oct. 1876	22½	27	24½
				31st " "	18½	24	21
				7th Nov. 1876	17½	19	20½
				14th " "	18	18½	20
				21st " "	18	19½	22
				28th " "	18	21	21½
				5th Dec. 1876	21	22½	22
				12th " "	22½	24	24
				Average of six years	38	66	58½

JĀMKHED Taluka (Supernumerary Assistant Collector)

				Date.	Prices—Lbs. per Rupee		
					Bajri.	Jowari.	Wheat.
The kharif yield is 6 annas. The rabi 2 annas. There is no prospect of further sowings this season.	The revenue is Rs. 82,000. Remissions to the extent of Rs. 37,400 will have to be made.	The number of cattle is about 60,000; 29,000 have been taken to the Nizam's territory, where many have died or been sold. Not more than 10,000 or 12,000 will return. Of those remaining in the taluka, 10,000 have died or will die. As there is no fodder in the taluka, the only measure that the ryots can take is to grow it in their gardens. Grants of tagai have been made for the purchase of fodder.	The water-supply is only from ½ to ¾ of what is usual, and it will be scarce in the hot weather. Rs. 2,000 are now being expended in deepening wells and excavating ziras in the beds of streams.	7th Oct. 1876	33	33	33
				15th " "	36	36	33
				23rd " "	33	33	27
				31st " "	33	33	27
				7th Nov. 1876	24	24	21
				15th " "	24	24	21
				23rd " "	24	24	21
				30th " "	25½	25½	22½
				7th Dec. 1876	25½	25½	22½
				15th " "	25½	25½	24
				Average of six years	54	66	42

continued.

f.	g.	h.	i.	j.	k.
r. F. S. Hamilton's Report, dated 23rd December 1876).					
rain is imported by road from Nagar. There is no railway in the vicinity. It is thought that prices will continue to fall. There is no large store of grain in any village of the taluka.	Of the total population of 82,000 about half are Kunbis. Of these one half combine agriculture with trade. There are a few large landholders, who may, the Assistant Collector thinks, be induced to help their tenants. The Collector, however, considers it improbable that the landholders will help their tenants either by making advances or by any other means.	15,000 people have left the taluka. Many went to Bombay, whence they are returning, having been unsuccessful in obtaining employment.	Fifteen small roads are in progress, and four more and some tank clearances are proposed. When these are completed, unless some large work like the Dhond-Manmád Railway is commenced, it will be necessary to go on improving the existing roads, as no money will be available to keep any more new ones in repair.	About 250 poor people are daily fed at Farnar. The expenditure has been about Rs. 600.	On relief works 6,000. By charity 250; these will increase largely before long. The number of workpeople on 1st March will be 10,000 to 12,000, 1st May 20,000, 1st July 1,500 to 2,000.

r. A. F. Woodburn's Report, dated 20th December 1876).

There is five months' supply in the taluka. There is a large store of grain at Mirajgaon and smaller stores at three or four other places, from which grain is being exported; it is being imported from Deksal, Pomalwari, and Jamkhed. Prices have fallen slightly. Private enterprise will keep up the supply.	The majority of the population belongs to the Kunbi and other inferior castes. The population is 52,983, of whom 3,447 are wealthy and 49,536 poor. Only 7,579 are reported purely agricultural, but the Assistant Collector believes the majority of the poor must belong to the agricultural class. There are no large landholders, except a few jaghirdars, from whom no aid can be expected.	22,956 people have migrated to the Godavari and the country north, and probably to the Berars. Some having failed to obtain employment have returned and report that the others are badly off. The people who remain, knowing this, will not be likely to emigrate.	Three road works which have been sufficient so far have been undertaken, but the sanctioned amount will be finished shortly. Six road works, to cost Rs. 14,100, and two tanks to cost Rs. 4,000, have been provisionally sanctioned, but will not suffice to give employment to the people. The Assistant Collector recommends clearing and repairing five large tanks.	Rs. 300 from Government and Rs. 50 from the Nagar Relief Fund have been given for feeding the aged and infirm; 1½ lbs. of jowári is given daily to adults, and 12 ounces to children. Provision for assisting travellers is considered unnecessary. The amount actually spent is not stated.	On works 7,210. By charity 173. Labourers likely to be on the works— 1st March - - 9,000 1st May - - 7,000 1st July - - 2,000
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r. A. F. Woodburn's Report, dated 20th December 1876.)

The local stocks are sufficient to last for three months. Further supplies are being brought from Nagar, Mirajgaon, Karjat, and Dhond Station (G. I. P. Railway). Prices have fallen during the last month. Supplies will probably be kept up by private enterprise.	The population amounts to 64,936, of whom 10,234 are purely agricultural, and 5,058 are artisans. The remainder must, the Assistant Collector thinks, be connected with agriculture. The people on the whole are poor. There are no large landholders.	The population is 60,000. About 20,000 have left principally for the valley of the Godavari and further north. There is no accurate information of what they are doing. A few have returned and many will probably follow. No further emigrations are expected.	Four large road works, three of which have been completed. Tank clearances and cutting prickly-pear are the works which have been undertaken. Seven more roads and a tank have been sanctioned. The works have hitherto been sufficient, but those remaining will not nearly suffice. If the earth-works of the Dhond and Manmád Railways are undesirable, a substitute must be found in some large irrigation work not yet discovered.	The aged and infirm received doles of grain daily, adults 1½ lbs. and children 12 ozs. of jowári. Government granted Rs. 500 for this purpose, the Ahmednagar Relief Fund Rs. 250 in grain and cash, and Rs. 56-8 have been raised locally. Travellers receive a day's food and enough to take them on to Nagar. The amount spent in charity is not given.	On works 3,846. By charity 200. The number of labourers will be as follows:— 1st March - - 8,000 1st May - - 8,000 1st July - - 4,000
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r. A. F. Woodburn's Report, dated 20th December 1876).

The taluka has sufficient grain for itself. Prices have fallen owing to the large supplies of grain brought to Poona, Nagar, and other places. The Assistant Collector is of opinion that the Banias will import grain if it is required.	The population is 62,351, of which 1,200 are rich, 22,351 poor and partly connected with agriculture; 5,400 purely agricultural and 33,400 partly agricultural. The majority belong to the Kunbis and other inferior castes. No help can be expected from any landholders to their tenants.	12,565 have emigrated to the Nizam's territory northwards. Some have returned, as they could not find employment. More are expected to emigrate after the rabi is reaped.	There are five road works in progress, and nine small works for improving the water-supply. The money sanctioned for these will shortly be expended. The Collector has been asked to obtain sanction for 13 roads and two tanks. The works so far have been sufficient.	The aged and infirm are supplied with grain daily, adults receiving 1½ lbs. and children 12 ounces of jowári. Rs. 300 have been given for this purpose. A travellers' depot has been opened at Kudch, for which Rs. 100 have been sanctioned, where travellers and the aged and infirm of the locality are helped.	On works 2,365. By charity 280. Labourers likely to be on relief works:— 1st March - - 6,000 1st May - - 5,000 1st July - - 2,000
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Statistics
relating to
distressed
districts in
Bombay
Presidency

a.	b.	c.	d.	e.
SHEOGAON Taluka (1st Assistant Collector Mr. A. H. Spry)				
The kharif yield will be 8 annas, and the rabi 8 annas. No further sowings, except in garden lands, can be expected.	Rs. 3,000 is the probable amount of remissions.	Some cattle brought in an enfeebled condition from other tulukas have died, and some have gone on to the Nizam's territory.	The water-supply is sufficient.	Prices—Lbs. per Rupee
				For the Week ending
				Jowari. Bajri. Wheat.
				7th October 1876 - 30 24 21
				15th " - 27 24 21
				23rd " - 27 25 21
				31st " - 28 28 24
				7th November 1876 - 30 24 21
				15th " - 27 24 21
				23rd " - 27 25 21
				30th " - 28 28 24
				7th December 1876 - 30 28 27
				15th " - 30 28 27
				23rd " - 32 30 28
				31st " - 30 28 27
				Average of four years - 24½ 60½ 36½

NEWASA Taluka (1st Assistant Collector)

a.	b.	c.	d.	e.
NEWASA Taluka (1st Assistant Collector)				
The kharif and rabi yield will each be 6 annas. No further sowings are expected this season.	The revenue is Rs. 1,30,000. The 1st Assistant Collector estimates the remissions at Rs. 30,000 or Rs. 40,000; but the Revenue Commissioner sees no reason for remissions, except in some few cases.	Some cattle have died, though probably not from starvation, and a good many have been taken to places where fodder is more plentiful. No unusual mortality is anticipated. No advances have been made by Government.	The water-supply will be sufficient.	Prices—Lbs. per Rupee
				For the Week ending
				Wheat. Bajri. Jowari.
				7th October 1876 - 30 36 36
				15th " - 30 36 36
				22nd " - 27 27 33
				31st " - 27 27 33
				7th November 1876 - 24 24 30
				15th " - 24 24 30
				22nd " - 24 24 30
				30th " - 24 24 30
				7th December 1876 - 27 27 30
				15th " - 30 30 33
				22nd " - 30 30 33
				Average of six years - 43 58 64

NAGAR Taluka (1st Assistant Collector)

a.	b.	c.	d.	e.
NAGAR Taluka (1st Assistant Collector)				
The kharif yield will be 4 annas, and the rabi 10 annas in bagayat lands, from 1 to 4 in jirayat lands of most villages, and 4 to 8 in the others. The area of each is not given, but the rabi cultivation considerably preponderates over the kharif. No further sowings of grain crops are expected.	The revenue is Rs. 1,17,597, and the probable remissions Rs. 50,000.	600 cattle are reported to have perished, and 25,000 more are expected by the Mamlatdar to die. This estimate the Assistant Collector and the Revenue Commissioner consider high. A grant of Rs. 2,200 tagai has been made for the purchase of fodder, and two sums of Rs. 2,000 each have been allotted for improving the water-supply and growing kadwal. There are grazing places at Pimpri in the Sangamner Taluka on the bank of the Prawari at Kopargaon, Kokomton, and Sannatebar, in the Kopargaon Taluka on the bank of the Godavari, and on the Ghats, where cattle can be accommodated. Some cultivators have purchased and sown fodder for the subsistence of their cattle. Others again are deporting them. The Mamlatdar proposes establishing six pounds for the admission of cattle, on the understanding that the owners relinquish all claims to them after they are put in; that Government should support them till the next monsoon, and then sell them, but the Assistant Collector and the Revenue Commissioner are both opposed to entering the market. The Collector supports his Assistant's suggestion to establish temporary Panjrapoles.	Of the total number of villages, 59 are on the banks of rivers, and 59 are dependent on wells for their water-supply. There is no fear of a total failure, provided wells are deepened, ziras dug, tagai liberally advanced, and use made of Norton's screw where practicable.	Prices—Lbs. per Rupee.
				Date.
				Rice. Gram. Wheat. Bajri. Jowari.
				1st October 1876 - 18 39 30 30 33
				9th " - 18 30 28½ 24 30
				17th " - 18 30 24 24 28½
				24th " - 16½ 31½ 24 24 30
				31st " - 16½ 26½ 22½ 22½ 27
				8th November 1876 - 14½ 24 20½ 21 24½
				16th " - 13½ 25½ 21½ 21½ 24½
				24th " - 13½ 28½ 22½ 22½ 25½
				1st December 1876 - 15 30 27 27 27½
				9th " - 15½ 31½ 27 27 27½
				17th " - 16½ 32½ 27 27 28½
				24th " - 16½ 33 27½ 27½ 30
				Average of six years - 18½ 36½ 33½ 44½ 56½

RAHURI Taluka (1st Assistant Collector)

a.	b.	c.	d.	e.
RAHURI Taluka (1st Assistant Collector)				
The kharif and the rabi yield will each be 2 or 3 annas. No further sowings are expected this season.	The revenue is Rs. 1,25,868; the remissions will probably be Rs. 35,000.	No unusual mortality among cattle has occurred, and no great loss is to be apprehended. Rs. 1,100 have been advanced for the purchase of fodder, and more will be given.	The water-supply is plentiful, most of the villages being on the banks of rivers.	Prices—Lbs. per Rupee.
				For the Fortnights ending
				Rice. Dál Tur. Jowari. Wheat. Gram. Bajri.
				15th October 1876 - 17½ 22½ 27½ 25½ 28½ 26½
				31st " - 17½ 16½ 27½ 22½ 25½ 26½
				15th November 1876 - 13½ 16½ 23½ 21 24 21½
				30th " - 16½ 19½ 26½ 23½ 28½ 26½
				15th December 1876 - 17½ 21 27½ 25½ 28½ 26½
				Average of six years - 20½ 23½ 65½ 33½ 36½ 40½

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Statistics
relating to
distressed
districts in
Bombay
Presidency

f.	g.	h.	i.	j.	k.
Reports, dated 30th December 1876 and 6th January 1877).					
The local stocks of grain are not large. Importations are made by private persons from the Nizam's territory.	The Mamlatdār reports a total population of 87,974, out of which the Assistant Collector thinks 60,000 are partly agriculture, and belong to the Kunbi caste. Sir Dinkar Rao is the only large landholder, and he will doubtless afford relief to his tenants if necessary.	No emigrations are reported, but considerable immigrations have taken place.	No relief works are considered necessary at present.	Rs. 300 have been assigned for charitable relief. Adults receive 1½ lbs. of grain or flour, and children 12 ozs. daily.	About 50 persons are supported by charity. The number of immigrants who may require support on relief works later on in the season is estimated at 7,003.

Mr. A. H. Spry's Report, dated 27th December 1876).

Grain is plentiful and is imported from the Nizam's dominions; it is also exported from this taluka to less favoured localities. Prices have fallen. Private enterprise will supply the market.	The population is 75,000, consisting chiefly of kunbis and agriculturists. There are about 5,000 high-caste people and 4,500 artizans. There are a few jahagidars, who may eventually give relief to their tenants.	There is more fear of immigration than of emigration, though some instances of the latter are reported.	No relief works are required for the present. Later on, however, a demand will be made which can well be met by constructing the earthworks of the Dhond and Munuād Railway. There is no other large works which can be undertaken with advantage.	About 50 infirm people are being charitably supported. Their numbers are likely to increase.	On works 50, by charity 50; this number will probably swell to 1,000 by 1st May. The numbers requiring relief on 1st March will probably be about 8,000, 1st May 20,000, 1st July 8,000. The Revenue Commissioner thinks that at the worst the numbers will never exceed 8,000 people.
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Mr. A. H. Spry's Report, dated 28th December 1876).

There is a stock of 3,303 tons of grain in store; this, with the Dhond and Mamnār stations at a distance of 47 and 100 miles respectively, whence supplies are drawn, will suffice. The prices have fallen, and private enterprise will supply the market.	Out of a total population of 67,312, the majority of whom are agriculturists, 65,966 are poor, and 1,346 well-to-do. The proportion of artizans to the total number is about 6 per cent. In the city there are a few landholders likely to assist their tenants, but none in the taluka.	33,032 souls have emigrated, and this number will probably swell as the season advances; their condition cannot be ascertained, but none have yet returned.	There are six road-works and some minor works in progress, which are insufficient, and must be supplemented by further road-works, tank-clearances, and cutting prickly pear, unless the Dhond and Mamnār Railway intersecting the taluka is commenced.	6,575 travellers have already been relieved, each receiving 1½ lbs. of jowāri flour, 6 ozs. of gram flour, together with chillies, a little salt, and five cow-dung cakes a day. The aged, infirm, &c., to the number of 15,641, have also been relieved, each receiving 1½ lbs. of grain, with a little salt.	The number on relief works is 1,462, by charity 781. The probable number requiring support will be as follows:— 1st March - 22,000 1st May - 39,000 1st July - 19,000
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Mr. H. P. Spry's Report, dated 26th December 1876).

Grain is plentiful, and is imported from Jubbulpore via Dhond and Mamnād stations. Prices have fallen and private enterprise will meet all demands.	The total population is about 59,000, consisting chiefly of Kunbis and other agriculturists. There are about 4,000 or 5,000 artizans. No aid can be expected from landholders.	No general emigration has taken or is likely to take place.	The only relief works started are road repairs and clearances, which have hitherto sufficed. But the demand for labour will shortly increase, and much more money spent on petty works will simply be wasted; the Dhond and Mamnād Railway would afford ample relief.	Rs. 300 have been allotted for charitable support to the needy, but more will be required.	On works 7,000; by charity 300. By works on 1st March 15,000, on 1st May 25,000, on 1st July 10,000, according to the 1st Assistant; but the Collector and Revenue Commissioner hope the number will not be quite so large.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.			
AKOLA Taluka (2nd Assistant Collecto							
The kharif yield may be taken at 9 annas, and the rabi at 2. There is no prospect of further sowings.	The remissions will probably amount to Rs. 36,000.	No unusual mortality among the cattle has taken place, and none is anticipated, as there is plenty of grazing on the Western Ghats.	The water-supply seems likely to fail altogether; the Praora and Mula rivers still contain water, but a large outlay will have to be incurred on deepening wells.	For the Months of		Prices—Lbs. per Rupee.	
						Rice.	Bajr
				October 1876	{	18	24
						17½	35½
						16½	26½
November 1876	{	15	27				
		15	25½				
		15½	24				
December 1876	{	16½	24				
		16½	25½				
		16½	26½				
Average of six years		-	25½	61½			

GENERAL

Of the 11 talukas, the crops in two seem to have been fair, in five bad, and in four very bad.
The proposed remissions amount to Rs. 5,77,943.
In six talukas the condition of the cattle seems satisfactory, in two indifferent, and in three bad.
In four talukas the prospects of the water-supply seem satisfactory, but it is reported that in five considerable, and in two large expenditure on this account will have to be incurred; no calamity due to failure of water-supply is, however, anticipated by the Government.
No apprehensions are entertained regarding the grain-supply.
The majority of the population of this as of all other Collectorates is either agricultural or very intimately connected with agriculture.
128,553 people, out of a population of 773,958, appear to have emigrated, but some have returned.
A further migration of upwards of 5,000 people is anticipated. The migration appears to this Government to be due mainly, if not entirely, to the cattle movements, and to the movement of the people towards relief works.

24th January 1877.

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Statistics
relating to
distressed
districts in
Bombay
Presidency.

f.	g.	h.	i.	j.	k.
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[r. F. S. Hamilton's Report, dated 27th December 1876).

There is no large stock of grain in the taluka; it is brought from Sangamner, and the prices will depend on the market rates ruling there.	Except about 500 artisans, the whole population is agricultural, and there are no large landholders among them.	About 1,800 people have emigrated, 300 of whom have gone to the Sinnar relief works adjoining Akola, and the rest probably to the Konkan.	Five road works are in progress; and as this is the only taluka in the zila where there are no roads, six more are proposed, as well as one or two tank-clearances.	About 50 persons are now being gratuitously supported at 1½ lbs. of flour for an adult and 12 ozs. for a child.	There are 650 people now on relief works. This number will rise to 900 in March, 1,200 in May, and fall to 500 in July. The aged and infirm will have to be supported to the extent of 150 in March, 300 in May, and 500 in July.
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OBSERVATIONS.

A considerable number of relief works is in progress, but the local officers are unable to suggest sufficient to meet the future demand for labour, unless the Dhond and Manmar Railway earthworks are undertaken.

The expenditure on charity has not been large.

The number of labourers anticipated to be on the hands of Government is—

On March 1st	-	-	-	-	-	98,900
„ May 1st	-	-	-	-	-	1,48,200
„ July 1st	-	-	-	-	-	47,500

This Government must guard themselves against the supposition of being held to accept, as accurate or reliable, all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. W. MACPHERSON,
Under Secretary to Government.

SOUTHERN DIVISION.—REVENUE

POONA DISTRICT.—COLLECTOR.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.
			Rs.
1. Junnar - - -	600	106,876	1,58,586
2. Indápur - - -	567	62,392	1,01,025
3. Khed - - -	799	139,152	1,68,961
4. Sirur - - -	558	76,984	1,40,392
5. Purandhar - - -	442	75,732	83,934
6. Bhimthari - - -	1,002	115,297	2,17,499
7. Haveli - - -	766	155,082	1,89,197
8. Máwal - - -	357	56,834	70,362
9. City of Poona - - -	8	118,886	—
Total - - -	5,099	907,235	11,29,956

POONA - - - - -

a.	b.	c.	d.	e.
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BHIMTHARI Taluka (1st Assistant Collector)

The kharif crop is estimated at 1 pie, and the rabi at 1½ pie. In the irrigated lands, where the water lasts, there may be sowings of different kinds of fodder crops. There will be no further sowings in dry-crop lands this season.	The First Assistant estimates the probable amount of remissions at about Rs. 2,15,000 on a revenue demand of Rs. 2,30,025. The Collector considers this estimate under the mark, and doubts whether any revenue can be collected at all.	Out of 71,000 head of cattle, about 47,000 have been taken to the Berars, the Nizam's Dominions, and the Western Ghâts. The past mortality is estimated at 15,000, and the anticipated mortality at 7,000, besides such deaths as may take place among the cattle which have left the taluka. It is only the more worthless animals which have died. No further measures are practicable on the part of Government for cattle preservation than those already adopted.	The villages on the Bhima and Nira Rivers will have plenty of water. The remaining villages are not so well off, and obtain their supply from wells, many of which will require to be deepened and improved; and a large expenditure (Rs. 40,000) will be necessary for this purpose.	For the Week ending	Prices—Lbs. per Rupee.					
					Wheat.	Bajri.	Jowari.	Rice.	Gram.	
					1st October 1876	22½	27	29½	18	27
					8th "	22½	27	29½	18	27
					15th "	18	18	22½	15½	18
					23rd "	18	18	22½	15½	18
					1st November 1876	18	18	22½	15½	18
					8th "	18	18	22½	15½	18
					15th "	18	18	20½	13½	18
					23rd "	18	18	20½	13½	20½
					1st December 1876	20½	20½	22½	15½	22½
					8th "	20½	20½	22½	15½	24½
					15th "	20½	20½	24½	18	24½
					23rd "	20½	20½	24½	18	24½
					Average of three years					25½

INDÁPUR Taluka (Report of Assistant Superintendent, Revenue Survey)

						Prices—Lbs. per Rupee.					
						Wheat.	Bajri.	Jowari.	Gram.	Rice.	Tur.
The kharif crop has utterly failed, and the rabi is estimated at about 2 pies.	The total land revenue (Rs. 1,15,254) will probably have to be remitted.	The number of cattle in the taluka was 44,216, of which 32,560 have emigrated, about 2,285 have died, and about 7,319 deaths are anticipated, unless special steps be taken to prevent them. No advantage has as yet been taken of the Government permission to graze cattle in the Konkan and Máwals, owing to a belief that those districts are fatal to cattle from the Deccan. The Assistant suggests that Government should send pressed hay to Diskál Station, and advance it as tagai to the cultivators. This plan the Revenue Commissioner considers too expensive, and thinks that it would be cheaper to let the cattle die, and then, if necessary, advance tagai for the purchase of others.	There is no fear of a water famine. 40 villages lie on the Bhima and Nira Rivers; the remaining 46 depend on wells, some of which will require deepening and improving.	For the Week ending	1st October 1876	25	32	31	30	21	44
					8th "	24	32	30	28	19	39
					15th "	20	27	27	23	19	35
					22nd "	19	22	23	23	17	35
					29th "	20	22	23	24	17	33
					5th November 1876	17½	20	20	18	17	—
					12th "	17½	20	20	18	17	—
					19th "	17½	18	18	21	17	—
					26th "	18½	19½	19	22	19	—
					3rd December 1876	19½	20	19	23½	19	—
					10th "	22½	23	21½	23½	19	—
					17th "	22½	23	20	23½	19	—
					24th "	22½	23	20	23½	19	—
					Average of six years	35	76	56	33	22	43½

Statistics
relating to
distressed
districts in
Bombay
Presidency.

COMMISSIONER—MR. E. P. ROBERTSON.

MR. G. NORMAN.

Rough Proportion of Kharif to Rabi Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
Kharif. Acres.	Rabi. Acres.	Inches.	Inches.
154,483	48,986	22·34	17·9
233,156	26,642	21·76	4·82
206,413	22,306	23·50	18·9
115,501	116,538	17·3	10·94
70,984	58,308	23·24	17·54
43,872	300,389	20·73	5·97
182,857	9,402	33·10	14·90
52,555	9,108	—	76·79
—	—	—	—
1,059,821	591,679	—	—

POONA

f.	g.	h.	i.	j.	k.
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MR. A. KEYSER'S REPORT, dated 27th December 1876).

The Mámálatdar estimates the local stock of grain at about 1,714 tons, but the importations are large and regular by railways, there being three railway stations in the taluka, Khedgaon, Pátas, and Dhond, whence supplies are drawn, and these importations have lowered prices considerably; but the First Assistant Collector does not anticipate any further fall. There is no likelihood of the supply failing.	The population numbers about 116,274 souls, of whom 22,070 are of the agricultural class, 1,300 shepherds and cattle owners, 8,200 artisans, 7,270 traders, shop-keepers, and servants, &c., and the remaining 77,434 are pensioners, women, and children, and people of no particular occupation. The landholders are nearly all of the class of peasant proprietors, and the few who sublet their land are either traders who will do nothing for their tenants or Brahmans who are in debt. The Inámdárs are also quite dependent on their land for their livelihood, and are more likely to require assistance than to give it. The cultivators are of the Kunbi and Mali caste.	The people have emigrated in large numbers (upwards of 39,200) to the Berars, the Sátapura Hills, the Nizam's Dominions, and the Konkan, with their carts, families, and cattle; and are not likely to return before the next harvest. Most of those who have gone are reported to be doing fairly; of others no information has been received. No further emigration is probable.	The chief relief works in progress are the Mutha Canal, employing about 18,000, and the Mutakamal Tank, employing 5,000 persons, besides numerous minor works which will afford employment to 10,000 for two or three months. Works sanctioned and in progress under civil agency are: Clearing the irrigation tank at Wadhani, clearing 7 small tanks for village water supplies, repairing 18 miles of road, making 47 miles of new road, cutting prickly pear, and excavating and deepening wells. As the numbers seeking employment are increasing, the first assistant thinks that, in addition to the above, one large work is necessary, and names the Nira Canal as a work ripe for commencement and capable of relieving very large numbers. He gives also a list of minor works that might be undertaken.	But little money has as yet been expended on charitable relief to travellers. The aged and infirm poor are allowed 1½ lbs. of grain a day, besides some salt and chillies.	The number on relief works was about 21,804 at date of report. It will be on— <table><tr><td>1st March -</td><td>30,000</td></tr><tr><td>1st May, about -</td><td>20,000</td></tr><tr><td>1st July, from -</td><td>5,000</td></tr><tr><td></td><td>to 10,000</td></tr></table>	1st March -	30,000	1st May, about -	20,000	1st July, from -	5,000		to 10,000
1st March -	30,000												
1st May, about -	20,000												
1st July, from -	5,000												
	to 10,000												

MR. W. M. FLETCHER), on special duty, Indápur, dated 29th December 1876).

Of the original local stock of grain, there are about 1,029 tons still unconsumed, and a large quantity sufficient to remove all anxiety has also been imported by rail to Diksal and Populwari. Private enterprise is likely to meet all demands, and prices may yet fall to a slight extent when this season's harvest comes into the market.	Of the total population, numbering 67,164 souls, 3,943 are artisans, 11,712 landholders, and 46,737 persons existing by other means. The mass of the population is agricultural. The higher rank of landholders, such as Patels, Kulkarnis, Deshmukhs, Deshpandes, &c., number about 10,000, including women and children, but few can live without work, and most of them differ in no way from the ordinary Kunbi. There are no wealthy landlords.	Of the total population (67,164), about 34,289 have migrated, but some are returning. Only the first to leave their villages appear to have bettered themselves. No further emigration is probable so long as relief works continue sufficient for the population.	The Assistant Superintendent submits a statement of 22 relief works in progress, chiefly roads, tanks, and wells, and proposes similar works likely to cost Rs. 39,050, suggesting that wells should precede other works. He does not think that these works will be sufficient to provide employment for all who are likely to need it, but is of opinion that if one or two large works were undertaken, such as constructing dams at favourable sites in the villages of Bhalwari, Shelgaon, and Kawtali, they would not only be sufficient to provide employment for all, but the prospective benefit, especially in a drought-stricken district like Indapur, would be very great.	Adults receive a daily allowance of 1 lb. of flour, with salt and chillies, and those under 15 years of age receive $\frac{1}{2}$ lb. flour, with salt and chillies. Travellers in need of food receive the same allowance, but are forwarded at once to the head-quarters of the Mamlatdar, who provides them with work or suitable relief.	The number of persons on the hands of Government for relief by works at date of report was 9,600, and relieved by charity 500. The probable number will be as below:— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>On 1st March</td><td>20,000</td><td>500</td></tr><tr><td>" 1st May -</td><td>25,000</td><td>500</td></tr><tr><td>" 1st June -</td><td>25,000</td><td>500</td></tr></table> The number to be relieved by charity will not alter much, unless increased by strangers from other districts.		On Works.	By Charity.	On 1st March	20,000	500	" 1st May -	25,000	500	" 1st June -	25,000	500
	On Works.	By Charity.															
On 1st March	20,000	500															
" 1st May -	25,000	500															
" 1st June -	25,000	500															

Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.						
PURANDHAR Taluka (1st Assistant Collector)										
The kharif crop is estimated at about 5 annas, and the rabi at about 4 annas. There will be no further sowings this season, except in irrigated lands.	The probable amount of remissions is estimated at about Rs. 32,000.	No unusual mortality among cattle has occurred or is anticipated. Many cattle were removed from the district early in the season. Fodder is sufficient, and Government interference unnecessary.	There will be no absolute failure of the water supply, but as it has failed in some places, and is scanty in others, wells will have to be sunk, and people aided in securing a sufficient supply, which will entail an expenditure of about Rs. 12,000.	Prices—Lbs. per Rupee.						
				For the Week ending						
				Wheat.	Bajri.	Jowari.	Rice.	Gram.	Tur.	
				3rd October 1876	- 31	43 1/2	51 1/2	22	32 1/2	52 1/2
				10th "	- 31	43 1/2	51 1/2	22	32 1/2	29 1/2
				17th "	- 31	42 1/2	52 1/2	22	32 1/2	29 1/2
				24th "	- 32 1/2	44 1/2	52 1/2	22	33 1/2	29 1/2
				31st "	- 30 1/2	26 1/2	57 1/2	22	36 1/2	1 1/2
				7th November 1876	- 29 1/2	43 1/2	56 1/2	22	33 1/2	67 1/2
				14th "	- 29 1/2	43 1/2	55 1/2	22 1/2	33 1/2	1 1/2
				21st "	- 31	45 1/2	54 1/2	23 1/2	34 1/2	70 1/2
				28th "	- 31	43 1/2	55 1/2	23 1/2	33 1/2	28 1/2
				5th December 1876	- 32 1/2	44 1/2	55 1/2	22 1/2	33 1/2	70 1/2
12th "	- 33 1/2	45 1/2	53 1/2	25 1/2	33 1/2	45 1/2				
19th "	- 28 1/2	44 1/2	52 1/2	24 1/2	36 1/2	42 1/2				
Average of six years, 1870-71 to 1875-76				34	45	64	23	44	48	

JUNNAR Taluka (District Deputy Collector Mr. Balaji)									
The kharif crop is 7 and the rabi 2 annas. There will be no further sowings this season.	Out of the total revenue demand of Rs. 1,40,000, about 25 per cent., or Rs. 35,000, will have to be remitted.	There has been no unusual mortality among the cattle and agricultural stock, but it is anticipated that from 10 to 15 per cent. of the total number (77,209) will die from starvation. As the forest reserves have already been thrown open for free grazing, the District Deputy can suggest no further remedy.	Partial failure of the water supply is anticipated later on in the season, and it will be necessary to deepen wells as they run dry.	Prices—Lbs. per Rupee.					
				For each Week in October, November, and December 1876.					
				Wheat.	Bajri.	Rice.	Jowari.	Gram.	Tur.
				1st week, Oct. 1876	- 28 24	17 25 3	30 48		
				2nd "	- 28 24	15 25 3	28 34		
				3rd "	- 29 20	15 24	25 34		
				4th "	- 20 20	15 24	24 30		
				1st week, Nov. 1876	- 19 20	16 24	24 24		
				2nd "	- 19 20	16 24	24 21		
				3rd "	- 19 20	16 24	24 21		
4th "	- 19 20	16 24	24 21						
1st week, Dec. 1876	- 19 20	16 24	24 21						
2nd "	- 19 20	16 24	24 21						
Average of six years				- 22 30	28 29	43 40			

MÁWAL Taluka (District Deputy Collector Mr. Balaji)													
The kharif crop is 5 and the rabi 2 annas. There will be no further sowings this season.	The remissions are estimated at about Rs. 10,100 out of a revenue demand of Rs. 59,000.	There has been no unusual mortality among the cattle nor is any anticipated. The measures already adopted by Government for the preservation of cattle are deemed sufficient.	There will be a scarcity of water during the hot weather, and wells must be deepened.	For each Week in October, November, and December 1876.	Prices—Lbs. per Rupee.								
					Wheat.	Bajri.	Jowari.	Rice.	Gram.	Tur.			
					1st week, Oct. 1876	-	25	25	26	25	27½	25	
					2nd	"	-	25	25	26	25	27½	25
					3rd	"	-	25	25	26	25	27½	22½
					4th	"	-	20	20	25	18	26	20
					1st week, Nov. 1876	-	21	20	25½	17½	26	13	
					2nd	"	-	21	20	25½	17½	25½	12
					3rd	"	-	20	20	24½	17½	25	13
					4th	"	-	20	21	24½	17½	25	12
1st week, Dec. 1876	-	20	21	24½	17½	25	14						
2nd	"	-	21	22½	26½	20	25	16					
3rd	"	-	21	22½	26½	20	25	18					
4th	"	-	22½	23½	28	20½	27½	20					
Average of six years					-	72	44½	49½	30½	38½	29		

KHED Taluka (District Deputy Collector Mr. Balaji)										
The kharif crop is 6, the rabi 1, and the bagayet 2 annas. There will be no further sowings this season.	Remissions will probably amount to about Rs. 14,000.	There has been no unusual mortality among cattle or agricultural stock, but about 5,500 deaths are anticipated. The Ghodi subdivision of the taluka is the principal pasture ground for all the cattle of Indapur and Bhimthari, and also for a portion of Sholapur, whence thousands of cattle have poured in, thus seriously affecting the pasturage at the disposal of the cattle of the taluka. The District Deputy thinks that Government has done all that is possible in the matter.	Water has failed to some extent, and further failure is anticipated. To counteract this, wells are being deepened.	Prices—Lbs. per Rupee.						
				For each Week in October, November, and December 1876.						
				Bajri.	Wheat.	Rice.	Jowari.	Gram.	Tur.	
				1st week, Oct. 1876	- 24	24	18 20	27	28 26	
				2nd "	- 24	22 20	18 20	27	28 26	
				3rd "	- 25	20 20	18 26	28 26	26 26	
				4th "	- 22	17 16	21 13	27 20	27 20	
				1st week, Nov. 1876	- 23	18 12	24 12	25 13	24 13	
				2nd "	- 20	15 13	22 13	22 12	22 12	
				3rd "	- 21	15 14	24 14	23 14	23 14	
				4th "	- 21	15 14	24 14	23 14	23 14	
				1st week, Dec. 1876	- 22	16 16	27 16	23 16	23 16	
				2nd "	- 20	17 16	24 16	23 19	23 19	
				Average of six years	- 40	27 1	20	50	32 1	24

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

f.	g.	h.	i.	j.	k.												
r. A. Keyser's Report, dated 28th December 1876).																	
There are no means of ascertaining the local stocks, which are probably not large, but importations are considerable, and no fear of grain proving insufficient is felt. The principal centres whence supplies are drawn are Poona, Saswad, Jejuri, Walhi, and Kikwi.	The population are all of the ordinary Kunbi class, and small peasant proprietors. There are 10 Indian villages among those suffering from distress, but the Inámdars are not in good circumstances, and do not assist their tenants.	Only a few have emigrated with their cattle to the Gháts; the majority of those who have left their villages have gone to the relief works.	The relief works in progress are the Baramatti-Jejuri Road, repairs to a small local road, excavating wells, and cutting prickly pear. Repairs to the main road connecting Jejuri with the railway, 15 miles, and a new road from Saswad to Tásgaon have been sanctioned. A list is submitted by the First Assistant of other projects deemed necessary hereafter to provide employment and afford relief to the people. The First Assistant is of opinion that the Nira Canal and the Jejuri Tank will absorb all the distressed workpeople in the district. The present works are insufficient to provide relief, and some work on a large scale is urgently necessary.	Rs. 150 have been expended in relieving the aged and infirm poor, but travellers have not as yet required such assistance.	There are at present employed on relief works about 5,650 persons, and relieved by charity 71. The numbers will hereafter be on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>9,000</td><td>150</td></tr><tr><td>1st May</td><td>6,000</td><td>150</td></tr><tr><td>1st July</td><td>1,000</td><td>50</td></tr></table>		On Works.	By Charity.	1st March	9,000	150	1st May	6,000	150	1st July	1,000	50
	On Works.	By Charity.															
1st March	9,000	150															
1st May	6,000	150															
1st July	1,000	50															

Mingadhur's Report, dated 27th December 1876).																	
The local stocks of grain are considered sufficient to last for at least three months. The supplies are drawn chiefly from Poona, and to a small extent from Sangamner. Private enterprise will supply all demand. No great fall in prices is anticipated.	The population, numbering 106,876 souls, is of a mixed character: 6,294 are high caste, and 105,582 low caste; 99,876 are poor, and 7,000 well-to-do; 81,033 are purely, and 25,843 partly, agricultural; of artizans the number is 5,500. The landholders are mostly involved in debt, but the few who are well-to-do are likely to aid their tenants.	About 2,000 people have emigrated into the neighbouring districts and Bombay. About half the number annually go to Bombay during the fair season, and return before the monsoon. The increase this year is owing to the present scarcity.	No relief work is in progress, but the Sirur-Narayangaon Road, estimated to cost Rs. 9,000, will shortly be commenced. Some other works have been sanctioned and some proposed, amounting in all to Rs. 1,48,000.	The charitable relief given has been trifling.	There are none on the hands of Government for relief either by works or by charity. The number requiring relief herein-after will be— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>2,000</td><td>20</td></tr><tr><td>1st May</td><td>10,000</td><td>30</td></tr><tr><td>1st July</td><td>2,000</td><td>50</td></tr></table>		On Works.	By Charity.	1st March	2,000	20	1st May	10,000	30	1st July	2,000	50
	On Works.	By Charity.															
1st March	2,000	20															
1st May	10,000	30															
1st July	2,000	50															

Mungadhur's Report, dated 27th December 1876).																	
the local stocks of grain, as far as ascertainable, are sufficient to last till March. Supplies are drawn from Lonauli, Kharkala, and Talegaon Railway Stations, and private enterprise will meet all demands. Prices are falling owing to large importations, and it is not thought likely that they will rise much.	The population is 56,534, and may be divided as follows: High caste 2,505, low caste 54,329, poor 55,034, and well-to-do 1,800, purely agricultural 51,634, and partly agricultural 5,200, artizans 1,000. The ryots are for the most part very poor and much involved. The few who are well-to-do will aid their tenants.	There has been no large emigration. Between 3,000 and 4,000 persons annually proceed to Bombay during the fair season, and return when their presence is required in the fields. It is anticipated that the increase this year will be about 50 per cent.	No relief works have been started yet, but some tanks have been sanctioned and will soon be commenced. Estimates are being prepared for two roads, one from Kharkala to Ambegaon, 11 miles, and the other from Induri to Kusur, 24 miles, which the Collector considers will be of great use in opening out two important valleys.	Charitable relief has been given, both in cash and in food, at the rate of 3 pies and 1 lb. of jowari per head per diem to 7 individuals.	Three persons have been fed on charity and four travellers relieved. Amongst the townsmen of Talegaon a subscription has been raised likely to amount to about Rs. 500 for charitable relief. The numbers of persons likely to be on the hands of Government will be as follows:— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March</td><td>500</td><td>25</td></tr><tr><td>1st May</td><td>1,000</td><td>100</td></tr><tr><td>1st July</td><td>800</td><td>150</td></tr></table>		On Works.	By Charity.	1st March	500	25	1st May	1,000	100	1st July	800	150
	On Works.	By Charity.															
1st March	500	25															
1st May	1,000	100															
1st July	800	150															

ungadhur's Report, dated 23rd December 1876).														
The local stocks (quantity not stated) are considered sufficient till April. Grain is imported from the Talegaon and Poona Railway Stations, and private enterprise will meet all demands, but prices are not likely to fall to any appreciable extent.	The population, numbering 139,100 souls, is of a mixed character, and may be divided as follows: high caste 6,100, low caste 133,000; of these 123,150 are poor, and 15,950 well-to-day. Purely agricultural number 119,800, and partly so 19,300. The total number of artizans is 10,000. Of landholders there are 13,463, but only 185 of these hold more than 100 acres. These will probably aid their tenants, but many of them are much involved.	Emigration has not taken place to any great extent. About 1,500 people annually go to Bombay during the fair season to seek employment, and return about the time the fields are being prepared for sowing. This year about 15 or 20 per cent. more have emigrated. Further emigration is not probable, especially as the people find employment on relief works.	The only relief work in progress in this taluka is the Khed-Pabal Road. As this is not sufficient, the District Deputy proposes other works, such as road-making and tank and well clearing.	There are four aged and infirm poor people, to whom relief is given in food at the rate of 1 lb. of bajri per head daily.	The number on relief works is 300, that relieved by charity 4. The number to be employed hereafter will be on the— <table><tr><td>1st March</td><td>-</td><td>4,000</td></tr><tr><td>1st May</td><td>-</td><td>5,000</td></tr><tr><td>1st July</td><td>-</td><td>2,000</td></tr></table>	1st March	-	4,000	1st May	-	5,000	1st July	-	2,000
1st March	-	4,000												
1st May	-	5,000												
1st July	-	2,000												

Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.
HAVELI Taluka (Acting First Assistant Collector)				
The kharif and the rabi crops are each estimated at about 6 annas. There will be no further sowings this season.	The revenue is Rs. 1,54,289, out of which the 1st Assistant thinks Rs. 25,000 must be remitted.	The mortality among cattle has been very small, from 75 to 100, and the measures adopted of throwing open forest reserves for free grazing are considered sufficient to prevent further loss.	In the east the water supply will prove sufficient to last till near rains, but in the west there is always a scanty supply during the hot weather, and some expenditure will be necessary for clearing out wells, &c.	Prices—Lbs. per Rupee
				For the Week ending
				Wheat. Bajri. Jowari. Rice. Gram. Tur.
				1st October 1876 - 25 23 32½ 19½ 86½ 43
				8th " - 23 23 32 19 82 36
				15th " - 20½ 20½ 24 19½ 81 31
				24th " - 16 21½ 24 14½ 27 31
				1st November 1876 - 18 21½ 24 14½ 27 31
				8th " - 18 18½ 19½ 14½ 20½ 31
				15th " - 18½ 20½ 19½ 14½ 20½ 31
				24th " - 18½ 20½ 19½ 14½ 20½ 31
				8th December 1876 - 20½ 20½ 21½ 14½ 20½ 33
				15th " - 20½ 20½ 21½ 14½ 20½ 33
				23rd " - 20½ 20½ 21½ 14½ 20½ 33
				Average of five years, 1871 to 1876. 24½ 36½ 44½ 18½ 28½ 36½

SIRUR Taluka (Assistant Collector Mr. E. C.)

The kharif crop is estimated at 4, and the rabi at 1½ annas. There will be no further sowings this season.	The remissions will probably amount to about Rs. 1,00,000, out of a revenue demand of Rs. 1,64,574.	Out of a total of 75,234 head of cattle, the village officers report that 2,083 have died from starvation, which the Assistant Collector thinks an exaggerated estimate. About 9,745 are reported to have been sold for nominal prices, but the Assistant Collector estimates the number so sold at about 5,000. About 19,751 have been sent out of the taluka for pasture. The cattle that are still left in the taluka will have to be fed with ordinary fodder or prickly pear. Cattle will eat prepared prickly-pear, but at present the ryots will not go to the cost of preparing it.	The water supply will prove sufficient when the necessary improvements to wells, &c. have been made.	Prices—Lbs. per Rupee
				For each Week in October, November, and December 1876.
				Bajri. Jowari. Wheat. Rice. Gram. Tur.
				1st week, Oct. 1876 - 24½ 26 23½ 14½ 34½ 31
				2nd " - 25 28½ 23½ 17½ 28½ 31
				3rd " - 24½ 27½ 23½ 18½ 25½ 19
				4th " - 23 25½ 19½ 14½ 25½ 23
				1st week, Nov. 1876 - 20 22½ 16½ 14½ 22½ 23
				2nd " - 20 22½ 16½ 14½ 22½ 23
				3rd " - 20½ 22½ 16½ 14½ 22½ 23
				4th " - 20½ 19½ 16½ 14½ 22½ 23
				1st week, Dec. 1876 - 20 19½ 16½ 14½ 21½ 27
				2nd " - 23 19½ 19½ 14½ 25½ 27
				3rd " - 23 24½ 21 14½ 27½ 27
				Average of six years - 56½ 38½ 44½ 18½ 19½ 55

GENERAL

Of the eight talukas, the crops in three seem good, in three indifferent, and in two bad. The proposed remissions amount to Rs. 5,46,354. In five talukas the condition of the cattle appears satisfactory, and in three rather the reverse. Some expenditure of money will render the water-supply throughout the Collectorate satisfactory. No apprehensions are entertained regarding the grain supply. The majority of the population of this as of all other Collectirates is either purely agricultural or very intimately connected with agriculture. 101,989 people seem to have migrated. The movement has now stopped; it appears to be to a great extent caused by the necessity of obtaining pasture for the cattle. The people are expected to return before or during the monsoon. The chief relief works now in progress are the Moota Canal, the Yewut Tank, the Shirshophul Tank, and the Poona Pond Road.

The 30th January 1877.

tinued.

Statistics relating to distressed districts in Bombay Presidency.

f.	g.	h.	i.	j.	k.												
A. Keyser's Report, dated 30th December 1876).																	
statistics of local ocks are obtainable. Poona is the great entre of the grain ade, and large im- ortations continue be made, which ave lowered prices onsiderably; but a ight rise may be an- ticipated before the ot weather.	Of the total population, numbering 216,885 souls, 45,299 are agriculturists. The landholders in the distressed part of the taluka are small and of the usual Kunbi or cul- tivating caste.	There has been little or no emigration; the Mutha Canal having given employ- ment to those need- ing it directly the distress began to be felt.	The Mutha Canal and the Pimpri Ghât Road are the principal relief works in progress, and employ about 3,000 peo- ple of the taluka. The First Assistant states that these works, in conjunction with cer- tain others he recom- ends, such as clearing wells and constructing tanks at Vagholé, Walthi, and Bosri, will afford sufficient relief to the people of the taluka.	The infirm and the aged poor obtain re- lief at Poona from the Municipality and the relief funds. Funds are also placed at the disposal of Patels to relieve persons of this class in outlying vil- lages, each person being allowed 1 lb. of grain a day and an anna a week for chillies, &c.	The number of persons on relief works is about 3,500, and that relieved by charity 47. The numbers likely to be on hand hereafter will probably be on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March -</td><td>5,000</td><td>60</td></tr><tr><td>1st May -</td><td>3,500</td><td>75</td></tr><tr><td>1st July -</td><td>500</td><td>75</td></tr></table>		On Works.	By Charity.	1st March -	5,000	60	1st May -	3,500	75	1st July -	500	75
	On Works.	By Charity.															
1st March -	5,000	60															
1st May -	3,500	75															
1st July -	500	75															

zanne's Report, dated 30th December 1876).

local grain stocks are considerable. The chief supplies are drawn from Ahmednagar, and importations by private enterprise have lowered prices. Private enterprise will continue to supply the demands of the taluka.	Of the population, numbering 76,984 souls, 21,096 are peasant proprietors, 8,547 are artisans, 1,023 traders, and the remainder labourers. The people are much in debt, and are highly improvident. There are no large landholders who will aid their tenants. A few of the peasant proprietors are free from debt, and comparatively wealthy, and can bear a famine without ruin, but cannot help others. The Soukars have, to a large extent, become landholders, and the peasant proprietors, in many instances, their tenants. They can, but will not, aid their tenants, and are merciless landlords. Of the class of Inâmdars, the chief is the Jagirdar of Malthan, a Sirdar of the first class and wealthy. He declined to aid his tenants, and left the taluka for Dhar at the first symptoms of distress. No help can be expected from this class.	About 18,500 persons have left the taluka. Of these about 2,000 are at work in the neighbourhood. About 5,000 have gone to Bombay and to the Ghât districts, and about 3,500 to the Moglai; but they all went with the full intention of returning next rains or earlier. About 300 of those who went to Gangthari have returned with unfavourable accounts of the place. Further emigration is not probable.	There are sufficient useful works in progress in the taluka, such as tanks, roads, and prickly pear cutting to afford employment to the people till March; and for the future the Assistant Collector submits a list of works which require inspection by the Irrigation Department.	A village register of persons requiring charitable relief has been prepared, and relief is given through the agency of the village officers — 1½ lbs. of grain to an adult, and 11 ozs. to a child. One day's supply is given to needy travellers; and clothing for sick and needy persons has been provided from funds allotted by Poona Famine Relief Fund.	The number employed on relief works at date of report was about 6,000, and that relieved by charity about 500. Future numbers are estimated at on— <table><tr><th></th><th>On Works.</th><th>By Charity.</th></tr><tr><td>1st March -</td><td>10,000</td><td>500</td></tr><tr><td>1st May -</td><td>15,000</td><td>800</td></tr><tr><td>1st July -</td><td>4,000</td><td>800</td></tr></table>		On Works.	By Charity.	1st March -	10,000	500	1st May -	15,000	800	1st July -	4,000	800
	On Works.	By Charity.															
1st March -	10,000	500															
1st May -	15,000	800															
1st July -	4,000	800															

SERVATIONS.

The expenditure upon charity has been trifling.

The number of labourers anticipated to be upon the hands of Government is—

On March 1st -	-	-	-	-	-	80,500
On May 1st -	-	-	-	-	-	85,500
On July 1st -	-	-	-	-	-	45,300

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

SOUTHERN DIVISION.—REVENUE

SHOLAPUR DISTRICT.—COLLECTOR

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.
			Rs.
1. Sholapur - - -	841	180,587	2,58,357
2. Bársi - - -	605	130,853	2,01,863
3. Karmála - - -	762	105,291	1,70,615
4. Mádha - - -	612	103,981	1,51,797
5. Pandharpur - - -	455	79,314	1,17,336
6. Sângola - - -	647	62,960	85,207
7. Málsaris - - -	574	55,048	88,730
Total - - -	4,496	718,034	10,73,905

SHOLAPUR - - - -

a.	b.	c.	d.	e.
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SANGOLA Taluka (Supernumerary Assistant Collector)

The kharif yield will be 7, and the rabi 3 pies. There are no prospects of further sowings this season, except fodder in garden lands.	The total revenue is Rs. 85,120, and the probable remissions will be about Rs. 76,252.	Out of 125,140 cattle, 50,000 have left the taluka, many of which are reported to have died or been sold, 6,820 have already perished, and further mortality to the extent of 14,700 is anticipated. As a remedial measure it is proposed to advance tagai, and shortly before the rains to re-transport agricultural cattle by rail at Government expense.	The taluka is dependent on wells and "hels" for its water-supply, which is now very scanty and precarious; wells and "hels" are being deepened, and new "hels" opened in the beds of rivers and nullahs. In some villages it will be impossible to provide water, and they must be deserted.	For the Week ending	Prices—Lbs. per Rupee					
					Jowári.	Bájrí.	Wheat.	Gram.	Rice.	Dall.
				7th October 1876	- 21	17½	21	20½	17½	20
				14th "	- 21	17½	21	20½	17½	20
				21st "	- 21	17½	19½	19½	14	19
				31st "	- 21	17½	19½	19½	14	19
				7th November 1876	- 17½	15½	15½	15½	15½	17
				14th "	- 17½	15½	15½	15½	15½	17
				21st "	- 17½	15½	17½	17½	15½	17
				30th "	- 17½	19½	17½	17½	15½	17
				7th December 1876	- 19½	19½	19½	19½	15½	15
				14th "	- 19½	17½	19½	19½	15½	15
				21st "	- 17½	17½	17½	17½	14	17
				Average of six years	58½	50½	40½	31½	19½	25½

PANDHARPUR Taluka (Supernumerary Assistant Collector)

The kharif and rabi yield are each under one anna. There are no prospects of further sowings this season, except fodder in garden lands.	The revenue amounts to Rs. 1,17,210, and the probable remissions will be Rs. 1,11,226.	Of 72,700 cattle, the Mámlatdár estimates that 63,800 have been taken away, 4,000 have died, and 4,900 still remain in the taluka. The Revenue Commissioner suggests that Government should aid in re-transporting the cattle by rail, and should advance tagai.	This taluka is traversed by the river Bhima and its tributary, the Mann, and the water-supply is not a matter of much anxiety. In some villages, however, where water is very scarce, "hels" are being dug in the beds of nullahs and wells deepened, and where water entirely fails, the people will be removed.	For the Week ending	Prices—Lbs. per Rupee					
					Jowári.	Bájrí.	Wheat.	Gram.	Rice.	Dall.
				7th October 1876	- 28	28	24½	28	17½	28
				14th "	- 24½	24½	21	24½	16	24½
				21st "	- 24½	24½	21	21	16	24½
				31st "	- 23	21	21	21	16	17½
				7th November 1876	- 19½	16	16	19½	16	18
				14th "	- 17½	16	17½	17½	16	18
				21st "	- 17½	17	17½	19	16	18
				30th "	- 20½	19½	19	21½	16	21
				7th December 1876	- 21	21	21	22	16	23
				14th "	- 21	21	21	23	16	23
				21st "	- 19	19	21	21	16	19½
				Average of six years	53½	45½	31½	31½	18½	29½

COMMISSIONER.—MR. E. P. ROBERTSON.
MR. J. H. GRANT.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Rough Proportion of <i>Kharif</i> to <i>Rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
63,121	343,593	28·35	8·68
79,848	198,596	29·4	11·14
31,235	364,325	22·37	8·41
36,436	266,412	25·32	6·45
28,489	194,826	24·64	6·8
162,704	111,738	21·76	4·29
43,258	169,734	—	11·78
445,091	1,649,224	—	—

SHOLAPUR.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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Mr. J. Davidson's Report, dated 27th December 1876).

There are upwards of 518,000 lbs. of grain in the market; private stocks cannot be ascertained, but are small. The chief centres from which grain is imported are Sholapur and Pandharpur. No fall in prices can be expected, but private enterprise will supply the market.	The population amounts to 76,850, of these 65,380 are caste people, and 11,470 Mhars and Mhangs; 6,800 are well-to-do, and 68,250 poor; there are about 65,000 agriculturists, and 5,000 weavers, &c. There are no large landholders capable of aiding their tenants.	35,000 persons have emigrated to the Berars, Central Provinces, Indore, and the Konkan, and some have bettered themselves. In a few cases cholera broke out and carried off some of the emigrants; a few of those who went into the Nizam's territory are returning; further emigration to the extent of 3,000 or 4,000 is expected.	The seven road works now in progress are insufficient, and must be supplemented by irrigation works in the taluka if found practicable, or by the Nira Canal and Dhond-Manmar Mamad Railway.	Charity at Government expense is given to the infirm at the rate of 1 anna for an adult and $\frac{1}{2}$ anna for each child. Rs. 595 have been expended from Government resources.	At present there are 15,000 persons employed on the works. There will be on— <table><tr><td></td><td><i>On Works.</i></td><td><i>By Charity.</i></td></tr><tr><td>1st March</td><td>- 22,000</td><td>800</td></tr><tr><td>1st May</td><td>- 25,000</td><td>1,000</td></tr><tr><td>1st July</td><td>- 18,000</td><td>1,200</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	1st March	- 22,000	800	1st May	- 25,000	1,000	1st July	- 18,000	1,200
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	- 22,000	800															
1st May	- 25,000	1,000															
1st July	- 18,000	1,200															

Mr. J. Davidson's Report, dated 27th December 1876).

There are 858,400 lbs. of grain in the market, the actual stores cannot be ascertained. It is imported from Sholapur and Barsi Road station; there will be no considerable fall in prices, but private enterprise will supply the market.	The population amounts to 79,314, of whom 63,740 are caste people, and 15,574 Mhars and Mhangs; 17,722 are well-to-do and 61,592 poor. There are upwards of 60,000 agriculturists and a trifling per-centage of artisans. There are no landholders capable of aiding their tenants.	40,000 people have emigrated; those with cattle, as a rule, went to the Berars, the Central Provinces, or Indore, and a few to the Nizam's Ghats; those in search of employment went to Bombay and the Konkan; 500 have returned, but it is anticipated that there will be some further emigration.	The relief works now in progress, and which will prove insufficient, are tank clearances; seven road works and other minor works. There are no large projects to be undertaken in the taluka itself; but if the works proposed in Sângola and Malsiras are sanctioned, the people can be transferred to them failing the Dhond and Mammar Railway and Nira Canal.	Government have spent Rs. 493 on charitable relief.	There are upwards of 10,824 persons on Government works at present. The Mamlatdar expects there will be on— <table><tr><td></td><td><i>On Works.</i></td><td><i>By Charity.</i></td></tr><tr><td>1st March</td><td>- 20,000</td><td>2,000</td></tr><tr><td>1st May</td><td>- 30,000</td><td>4,000</td></tr><tr><td>1st July</td><td>- 20,000</td><td>3,000</td></tr></table> But the Assistant Collector considers the numbers on works over-estimated.		<i>On Works.</i>	<i>By Charity.</i>	1st March	- 20,000	2,000	1st May	- 30,000	4,000	1st July	- 20,000	3,000
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	- 20,000	2,000															
1st May	- 30,000	4,000															
1st July	- 20,000	3,000															

Statistics
relating to
distressed
districts in
Bombay
Presidency.

SHOLAPUR--

a.	b.	c.	d.	e.
SHOLAPUR Taluka (Deputy Collector's Report)				
The kharif yield will be 1 pie and the rabi <i>nil</i> . There are no prospects of further sowings this season.	The revenue is Rs. 2,74,000; the Mamlatdar estimates the remissions at Rs. 2,58,000, which the Revenue Commissioner considers too high.	Out of the total number of 71,000 cattle, 20,000 have been sent to Khandalla to graze, 30,000 have been killed by butchers, or have died of starvation, which statement, however, the Revenue Commissioner considers exaggerated, and 20,000 more are expected to perish. The Collector considers advancing tagai to holders of garden land the only practicable remedy.	In 87 villages the water-supply will be precarious, but the difficulty can in a measure be obviated by temporary wells. Some villages, however, must be abandoned in the hot weather.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Bajri.
				Dall.
				7th October 1876 - 30 - 24 - 26
				14th " - 27 - 24 - 25
				21st " - 24 - 22 - 19
				31st " - 18 - 21 - 18
				7th November 1876 - 16 - 18 - 16
				15th " - 16 - 18 - 17
				21st " - 17 - 18 - 19
				30th " - 17 - 19 - 19
				7th December 1876 - 20 - 22 - 24
				15th " - 20 - 22 - 19
				21st " - 20 - 23 - 19
				Average of six years - 48 - 52 - 29

KARMALA Taluka (District Deputy Collector's Report)

The kharif and rabi yield may each be taken at 1 anna. There are no prospects of further sowings this season, except fodder in garden lands.	The total revenue is Rs. 1,68,000, nearly the whole of which must be remitted.	There were about 130,000 cattle in the taluka, of which 85,000 have been taken away for grazing, 2,500 have perished, and further mortality to the extent of 5,000 is anticipated.	A failure in the water-supply of some of the villages distant from the rivers is apprehended; wells are being deepened and cleared.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Wheat.
				Rice.
				Bajri.
				Tur Dall.
				Gram.
				7th October 1876 - 35 31½ 17½ 23 31½ 35
				15th " - 28 21 17½ 21 28 29½
				22nd " - 24½ 19½ 15 21 24½ 26½
				31st " - 21 29½ 15 21 21 22½
				7th November 1876 - 19½ 17½ 14 17½ 19½ 21
				15th " - 18½ 17½ 14 17½ 17½ 17½
				22nd " - 18½ 17½ 14 18½ 19½ 21
				30th " - 19½ 19½ 14 20½ 21 21
				7th December 1876 - 21 21 14 21 21 21
				15th " - 24½ 22½ 14 21 22½ 22½
				22nd " - 23½ 22½ 14½ 22½ 22½ 22½
				Average of six years - 54½ 36½ 19½ 47 34½ 38½

MALSIRAS Taluka (District Deputy Collector's Report)

The kharif yield may be taken at 3 annas, and the rabi at 7 pies. There are no prospects of further sowings this season.	The total revenue is Rs. 85,900, nearly the whole of which must be remitted.	Out of the total number of 117,420 cattle, 867 have died from starvation, 2,300 more are expected to die, and 85,900 have been taken into other districts. Importing pressed grass is proposed as a remedial measure.	The water-supply will prove sufficient; 20 villages are watered by the Nira, and the rest are dependent on wells, which, when improved, will hold a sufficient supply.	Prices—Lbs. per Rupee.
				For the Week ending
				Bajri.
				Jowari.
				7th October 1876 - - - 27 - 30
				15th " - - - 20 - 25
				21st " - - - 18 - 20
				30th " - - - 15 - 15
				7th November 1876 - - - 15 - 15
				15th " - - - 15 - 15
				21st " - - - 17 - 17
				30th " - - - 20 - 20
				7th December 1876 - - - 20 - 20
				15th " - - - 20 - 20
				21st " - - - 20 - 20
				Average of six years - 44 - 51

MADHA Taluka (Second Assistant Collector)

The crops have failed completely, and no further sowings are probable this season.	The total revenue is Rs. 1,51,681, and the probable remissions Rs. 1,51,019.	There were 102,231 cattle in the taluka, out of which 42,000 have left, 5,000 have perished, and it is expected that ⅓ or ⅔ of the remainder will succumb; exportation is the only means of saving them.	The taluka is well watered by rivers, and has numerous wells and tanks, and its water-supply is not a matter of anxiety.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Wheat.
				Gram.
				Bajri.
				Rice.
				Dall.
				1st week in Oct. 1876 - 28½ 21½ 25½ 21 19 17½
				2nd " - 25½ 19½ 28½ 17½ 19 17½
				3rd " - 21½ 18 21½ 17½ 17½ 15½
				4th " - 21½ 18 21½ 17½ 17½ 15½
				1st week in Nov. 1876 - 18 16½ 18 17½ 17½ 15½
				2nd " - 18 15½ 17½ 17½ 17½ 15½
				3rd " - 21½ 18 21½ 17½ 17½ 15½
				4th " - 23½ 21½ 23½ 21 18 15½
				1st week in Dec. 1876 - 25½ 21½ 25½ 21 19 21
				2nd " - 25½ 21½ 26 21 19 21
				3rd " - 25½ 21½ 22½ 21½ 19 25½
				Average of six years - 71½ 34½ 36½ 56½ 24½ 29½

Statistics
relating to
distressed
districts in
Bombay
Presidency.

continued.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>												
forwarded with Collector's remarks, dated 15th January 1877).																	
the local stocks are estimated at 740,000 lbs. of jawari. The railway station at Sholapur is the chief centre from which supplies can be drawn. Prices have fallen and the Revenue Commissioner considers that private enterprise will do all that is required, though the local officers think that grain supplies will run short in the more distant villages of the taluka.	The total population is 170,600, of whom 128,700 are high caste, and 41,900 low caste, 166,600 poor and 4,000 well-to-do; 82,000 agricultural, and 88,600 non-agricultural, of whom 28,000 are artisans. There are no landholders likely to aid their tenants.	About 20,000 people have emigrated into the Nizam's territory, but failing to better themselves are returning. No further emigration is probable.	The present relief works are not sufficient; it is proposed to undertake tank clearances and two irrigation tanks if they prove practicable.	2,800 infirm people are being charitably supported.	At present 17,991 persons are supported on works, 2,800 by charity. There will be on— <table><tr><td></td><td><i>On Works.</i></td><td><i>By Charity.</i></td></tr><tr><td>1st March</td><td>30,000</td><td>3,000</td></tr><tr><td>1st May</td><td>35,000</td><td>4,000</td></tr><tr><td>1st July</td><td>40,000</td><td>5,000</td></tr></table> If rain fall seasonably, the number on works in July will be reduced to about 25,000.		<i>On Works.</i>	<i>By Charity.</i>	1st March	30,000	3,000	1st May	35,000	4,000	1st July	40,000	5,000
	<i>On Works.</i>	<i>By Charity.</i>															
1st March	30,000	3,000															
1st May	35,000	4,000															
1st July	40,000	5,000															

forwarded with Collector's remarks, dated 9th January 1877).

There are upwards of 825 tons of grain in store; it is imported chiefly from Khardi and Jeur. Prices have fallen, and private enterprise will supply the market.	The total population is 101,187, of whom 82,243 are high caste, and 18,944 low caste; 100,687 poor, and 500 well-to-do; 8,300 agricultural and 92,887 non-agricultural, of whom 5,000 are artisans. There are no large landholders able to assist their tenants.	Nearly half of the people have emigrated, some to the Nizam's territory and the Berars, others to the Konkan. They do not appear to have bettered themselves, and 2,000 have already returned, and more are returning. No further emigration is anticipated.	The relief works in progress are not sufficient; many others will be required.	Charitable relief to the extent of Rs. 295 has been given by Government in the shape of food.	The number of people on the hands of Government is at present 6,074 labourers, and 518 people receiving charity; and the estimate is, on— <table><tr><td></td><td>On Works.</td><td>By Charity.</td></tr><tr><td>1st March</td><td>12,000</td><td>900</td></tr><tr><td>1st May</td><td>15,000</td><td>1,050</td></tr><tr><td>1st July</td><td>15,000</td><td>1,200</td></tr></table> The Collector, however, thinks the numbers on works will be greater.		On Works.	By Charity.	1st March	12,000	900	1st May	15,000	1,050	1st July	15,000	1,200
	On Works.	By Charity.															
1st March	12,000	900															
1st May	15,000	1,050															
1st July	15,000	1,200															

forwarded with Collector's remarks, dated 6th January 1877).

There are upwards of 763 tons of grain in store; it is imported from Pomalwari, Deeksal, and Barsi Road Stations. Private enterprise will supply the market, but it may be necessary for Government to keep up a small amount of carriage for the grain transport.	The total population amounts to 63,473, of whom 52,127 are Mahrattas and 11,346 low caste; 60,993 are poor, and 2,480 well-to-do; 48,000 are agriculturists, and 12 per cent. artisans. There are no landholders able to assist their tenants.	35,500 have emigrated to the Nizam's dominions, the Berars, Nagpur, and the Konkan; 1,000 have returned, and many more are following. No further emigration is probable.	16 relief works are now in progress; they will prove insufficient, and four tanks and two roads are proposed.	Destitute people receive flour and a few pice. Rs. 1,687 have been spent in this way up to date.	Government at presentsupport 9,020 on works and 593 by charity. The number to be provided for will be on— <table><tr><td></td><td>On Works.</td><td>By Charity.</td></tr><tr><td>1st March</td><td>- 11,000</td><td>800</td></tr><tr><td>1st May</td><td>- 26,000</td><td>900</td></tr><tr><td>1st July</td><td>- 14,000</td><td>1,100</td></tr></table>		On Works.	By Charity.	1st March	- 11,000	800	1st May	- 26,000	900	1st July	- 14,000	1,100
	On Works.	By Charity.															
1st March	- 11,000	800															
1st May	- 26,000	900															
1st July	- 14,000	1,100															

Mr. H. A. Acworth's Report, dated 1st January 1877).

There are about 117,600 lbs. of grain in the taluka; the chief trade centre is the village of Kurdowadi at Barsi Road Station; it forms a centre of export from Pandharpur and Barsi. In the interior of the taluka Shetphal has acquired importance as a local trade centre. Prices have fallen, and private enterprise will supply the market.	The population is 103,981, of whom 84,379 are high, and 19,608 low, caste; 17,894 are cultivators, 86,087 non-cultivators, and 1,777 artizans; the people are wretchedly poor, and there are no landholders capable of aiding their tenants.	31,800 have emigrated into the Nizam's territory, Dehrur, Bhir, Umrawati, &c., the majority of whom have not bettered themselves; more than 2,000 have returned, and others are following; further emigration is expected.	At present there are 8 roads, 22 tanks, and 20 wells in progress. In addition to these, the Ashti tank will be undertaken, and the Dhond and Mumdad Railway would afford relief.	A comparatively small number of paupers are receiving gratuitous support.	At present Government support 12,500 on works and 1,355 by charity. The numbers requiring relief on works will be on— 1st March - 30,000 or 40,000 1st May - 40,000 1st July - 10,000 or 15,000 if rain falls early. The Revenue Commissioner and Collector think these numbers over-estimated.
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Statistics relating to distressed districts in Bombay Presidency.

a.	b.	c.	d.	e.				
BARSII Taluka (Second Assistant Collector)								
The kharif yield may be taken at 1 anna 9 pies, and the rabi at 3 annas. There are no prospects of further sowings this season.	The revenue is Rs. 2,05,180, and the probable remissions will be, according to the Assistant Collector, Rs. 1,51,672; but the Revenue Commissioner considers this amount too great.	The number of cattle, including sheep, is 102,164, about 18,000 of which have left the taluka. The Assistant Collector anticipates a mortality of half the remainder, but the Revenue Commissioner thinks the number exaggerated. The people do not take advantage of the means of transport to the Gháts offered by Government, as they fear finding themselves in a helpless condition far from home.	A considerable sum of money must be spent in the taluka to improve the water-supply, but there is no reason for anxiety, except as regards the town of Barsi.	Prices—Lbs. per Ru				
				For the Week ending				
				Jowari.	Bajri.	Wheat.	Gram.	Rice.
				1st week in Oct. 1876 -	29 29 ³ / ₄	36 ¹ / ₂	29	16 ¹ / ₂
				2nd " " -	27 26 ¹ / ₂	20 ¹ / ₂	27	16 ¹ / ₂
				3rd " " -	26 ¹ / ₂ 25	22 ¹ / ₂	25	15 ¹ / ₂
				4th " " -	24 24	22	24	15
				1st week in Nov. 1876 -	23 ¹ / ₂ 22 ¹ / ₂	20	22 ¹ / ₂	13
				2nd " " -	22 21 ¹ / ₂	20	22	14
				3rd " " -	21 20	19 ¹ / ₂	21	13
				4th " " -	21 21	21	22 ¹ / ₂	14
				1st week in Dec. 1876 -	21 21	21	24 ¹ / ₂	14
				2nd " " -	22 ¹ / ₂ 22 ¹ / ₂	21	24 ¹ / ₂	14
				3rd " " -	21 21	21	24 ¹ / ₂	14
				The average prices for the last six years have been given.				

GENERAL

Of the seven talukas the crops in two seem bad, and in five very bad.
The proposed remissions amount to Rs. 10,01,169.
In one taluka the condition of the cattle appears indifferent, and in six bad.
In two talukas the prospects of the water-supply seems satisfactory, in three indifferent, and in two bad. No calam due to failure of water is anticipated by Government.
No apprehensions regarding the grain supply are entertained.
The majority of the population of this, as of all other collectorates, is either purely agricultural or very intimately connected with agriculture. The figures given by Mr. Acworth (and by the District Deputy as respects Karmá regarding the cultivators and non-cultivators are obviously absurd. He apparently classes khatedars alone as cultivators 212,300, out of a population of 718,034, seem to have migrated. More are expected to follow their example, but, the other hand, some have returned. This migration is, to a great extent, a cattle movement.

31st January 1877.

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

f.	g.	h.	i.	j.	k.
c. H. A. Acworth's Report, dated 1st January 1877).					
There are upwards of 3,071 tons of grain in store. Barsi Road Station, the chief centre of supply, is 1 mile from the kasba town. There are five large market towns well situated to supply the interior. Prices have fallen, and private enterprise will supply the market.	The population amounts to 117,664, of whom 98,187 are high caste, and 19,447 low caste; 8,541 are cultivators, 109,123 non-cultivators, and 4,500 are artisans; about 15,000 are well-to-do and the rest poor. There are no landholders who will aid their tenants.	Many have emigrated, but have not bettered themselves thereby, and are returning; about 1,000 have already done so. Further emigration may be expected.	The relief works in progress are chiefly wells and tanks, and this class of works will be continued till the monsoon.	A number of persons are being fed daily in the kasba town, and all Patels have instructions to relieve and forward all travellers to the Mamlatdars.	Government at present supports 810 on works and 2,450 by charity. On 1st March the Assistant Collector thinks there will be about 15,000 on works with an increase on 1st May. But the Revenue Commissioner is of opinion that the Assistant Collector's estimate of 15,000 will never be reached.

OBSERVATIONS.

The chief relief works are the Ashti tank and the Barsi-Yedsi and Pandharpur-Wangi roads.

The expenditure upon charity has been considerable.

The number of labourers anticipated to be upon the hands of Government is about—

On March 1st -	-	-	-	-	-	140,000
„ May 1st -	-	-	-	-	-	186,000
„ July 1st -	-	-	-	-	-	132,000

This Government must guard themselves against the supposition of being held to accept, as accurate or reliable, all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under-Secretary to Government.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

SOUTHERN DIVISION.—REVENUE

SATARA DISTRICT.—COLLECTOR'S REPORT.

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.
			Rs.
1. Karád - - -	391	133,122	2,46,531
2. Wálwa - - -	595	156,089	3,25,902
3. Satara - - -	330	115,113	1,33,659
4. Wai - - -	389	86,095	1,13,551
5. Jauli - - -	412	59,836	60,299
6. Khánápur - - -	508	76,783	1,22,269
7. Koregaon - - -	333	82,344	1,69,554
8. Mán - - -	640	62,198	72,260
9. Pátan - - -	510	115,491	92,433
10. Khatau - - -	530	81,950	1,03,047
11. Tasgaon - - -	345	87,975	1,11,467
12. Mahableshwar - - -	5	4,006	3,357
Total - - -	4,988	1,061,002	15,54,329

SATARA - - -

a.	b.	c.	d.	e.																								
WAI Taluka (1st Assistant Collector Mr. W. A.)																												
In 18 villages the crop is above the average, in 14 up to it; in 19 it is 10 annas, in 39 it varies from 6 to 3 annas, and in 5 it is <i>nil</i> . Kharif and rabi are not distinguished. There are no prospects of further sowings this season.	The probable remissions will be Rs. 12,053. The total amount of revenue is not given.	Five animals have died from starvation, and many have been taken to the Gháts.	There is no fear of the water-supply failing.	<table><tr><td colspan="8">The course of weekly prices from 1st October to 25th December has not been given. The average rate for the last six years is—</td></tr><tr><td>Bajri.</td><td>Jowári.</td><td>Wheat.</td><td>Rice.</td><td>Gram.</td><td>Tur Dall.</td><td>Wari.</td><td>Naghi.</td></tr><tr><td>33½</td><td>36½</td><td>24½</td><td>18½</td><td>26½</td><td>23½</td><td>36½</td><td>57½</td></tr></table>	The course of weekly prices from 1st October to 25th December has not been given. The average rate for the last six years is—								Bajri.	Jowári.	Wheat.	Rice.	Gram.	Tur Dall.	Wari.	Naghi.	33½	36½	24½	18½	26½	23½	36½	57½
The course of weekly prices from 1st October to 25th December has not been given. The average rate for the last six years is—																												
Bajri.	Jowári.	Wheat.	Rice.	Gram.	Tur Dall.	Wari.	Naghi.																					
33½	36½	24½	18½	26½	23½	36½	57½																					

SATARA Taluka (1st Assistant Collector Mr. W. A.)

The kharif and rabi yields (between which no distinction has been made) will be from 7½ to 10½ annas. There is no prospect of further sowings this season.	The probable remissions, according to the Mám-latdár, will be Rs. 23,373, but the Assistant Collector and the Revenue Commissioner consider the amount much over estimated. The amount of revenue is not given.	No unusual mortality amongst the cattle has taken place, nor is any probable.	No failure of water-supply is anticipated, except in the city and camp of Satara, where it will be severely, if not dangerously, felt.	The course of weekly prices from 1st October to 25th December is not given. The average for the last six years is—														
				<table><tr><th>Jowári.</th><th>Wheat.</th><th>Gram.</th><th>Bajri.</th><th>Rice.</th><th>Tur Dall.</th><th>Nachni.</th></tr><tr><td>41½</td><td>26½</td><td>28½</td><td>35½</td><td>21½</td><td>28½</td><td>34½</td></tr></table>	Jowári.	Wheat.	Gram.	Bajri.	Rice.	Tur Dall.	Nachni.	41½	26½	28½	35½	21½	28½	34½
Jowári.	Wheat.	Gram.	Bajri.	Rice.	Tur Dall.	Nachni.												
41½	26½	28½	35½	21½	28½	34½												

JAULI Taluka (1st Assistant Collector Mr. W. A.)

The kharif yield will be 7½ annas, and the rabi in some villages will be up to the average, in 18 from 3 to 7½, and in one it will be <i>nil</i> . There are no prospects of further sowings this season.	The probable remissions will amount to Rs. 2,173. The total amount of revenue is not given.	No mortality amongst the cattle has occurred, or is likely to occur.	No failure of the water-supply is anticipated.	The course of weekly prices from 1st October to 25th December has not been given. The average rate for the last six years is—							
				Jowari.	Nachni.	Bajri.	Wheat.	Rice.	Gram.	Tur Dall.	Wari.
				39	38 ⁹ / ₁₀	27 ² / ₂	31 ⁹ / ₁₀	25 ⁵ / ₈	29 ⁹ / ₁₀	26 ¹ / ₂	33

KOREGAON Taluka (1st Assistant Collector Mr. W. A.)

The kharif yield in some villages is up to the average; in 18 from 8 to 10, in 12 from 6 to 7, and in 17 from 4 to 5 annas. Beyond the fact that the rabi crop is reported to look well, no mention is made of the probable yield. No further sowings will take place this season.	The probable remissions will amount to Rs. 23,000.	No unusual mortality amongst the cattle has taken place, 2,339 have left for the ghats and Konkan. Some slight mortality may be expected before the rains among the weakly ones retained for field work.	There will be a scarcity of water in the hot weather in villages on the hill slopes. Takavi will be advanced, and grants from local funds made to improve the supply.	The course of weekly prices from 1st October to 25th December has not been given. The average rate for the last six years is—												
				<table><tr><th>Wheat.</th><th>Jowári.</th><th>Rice.</th><th>Bajri.</th><th>Tur Dall.</th><th>Gram.</th></tr><tr><td>20½</td><td>43½</td><td>20½</td><td>45½</td><td>21½</td><td>30½</td></tr></table>	Wheat.	Jowári.	Rice.	Bajri.	Tur Dall.	Gram.	20½	43½	20½	45½	21½	30½
Wheat.	Jowári.	Rice.	Bajri.	Tur Dall.	Gram.											
20½	43½	20½	45½	21½	30½											

COMMISSIONER.—MR. C. P. ROBERTSON.

R. F. G. MOORE.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Rough Proportion of <i>Kharif</i> to <i>Rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
75,449	34,396	27·97	19·75
117,991	28,360	25·24	12·85
46,935	13,998	40·4	33·59
73,738	21,391	32·88	25·34
41,759	5,741	74·3	59·84
156,079	21,015	23·34	11·4
79,032	27,707	27·77	20·19
184,487	51,700	20·89	9·35
61,809	2,975	61·71	48·82
141,542	15,929	22·38	11·51
108,563	16,100	25·77	9·79
451	25	273·22	243·16
1,087,835	239,337	—	—

- SATARA.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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ast's Report, dated 22nd December 1876).

he present stock of grain will probably last for three months. Prices have fallen, and private enterprise will supply the market.	The bulk of the population of 88,000 belong to the Mahratta caste; there is a small per-centage of Brahmins, Mussulmans, Mhars, Mangs, &c.; 25,000 are wholly, and 53,000 partly agricultural; the rest are artizans, &c. There are a few wealthy Inamdars who will probably aid their tenants.	About 2,000 people have emigrated to Bombay and elsewhere, and have probably found employment.	No relief works are in progress. Failing the commencement of the Nira Canal, which will absorb all available labour, estimates for seven road-works are under preparation in case of necessity.	No gratuitous relief has yet been afforded except to one man.	As yet only one man is dependent on Government for charity, but about 3,000 labourers will have to be employed through the hot weather.
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ast's Report, dated 22nd December 1876).

rain is plentiful, and is imported from the coast and Poona. Prices have fallen, and private enterprise will supply the market.	The population is 33,000, consisting chiefly of Mahrattas; 5 per cent. are Brahmins, 10 per cent. outcastes, and 1 per cent. Mussulmans. About 25 per cent. are fairly off, and the remainder poor, 50,800 are purely, and 14,523 are partly agriculturists. There are about 40 Inamdars likely to assist their tenants.	The usual number. About 300 have left for Bombay in hopes of employment.	No relief works are in progress. None are deemed necessary.	No charitable relief is given by Government.	It is unlikely that Government will have any persons on their hands for relief either by charity or by employment.
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ast's Report, dated 22nd December 1876).

The supply of grain has not failed, and it can easily be obtained from the Konkan and Satara.	The population of this Taluka is 58,565, of whom 1,500 are fairly off. Excluding Mahableshtar, only 2,000 are non-agricultural. The bulk of the people are Mahrattas, 2 per cent. are Brahmins, 4 per cent. outcastes, and 1½ Mussulmans. There are about 12 wealthy Inamdars.	About 500 people have left, as usual, for Bombay in search of employment.	No relief works are in progress, and none are likely to be required for the Taluka. Should it be deemed necessary to undertake any, the Kas water-supply scheme and five road-works would be suitable.	No charitable relief is required.	If relief works are undertaken, about 2,000 people will be on them on 1st March, 3,000 on 1st May, and 4,000 on 1st July, if rain does not fall seasonably.
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ast's Report, dated 22nd December 1876).

Grain is plentiful, and private enterprise will supply the market.	The bulk of the people is Mahratta, 6 per cent. are Brahmins, 6 per cent. outcastes, and 1 per cent. Mussulmans. One-third of the population are fairly off, and the remainder poor. The proportion of the agricultural to the partly agricultural and the artizans is as 4 to 2 and 4 to 1, respectively. There are 22 Inamdars able to assist their tenants.	2,370 people have left for Bombay, Poona, and elsewhere, and others are likely to follow.	Two road-works have been undertaken for relief, and three others can be undertaken if the necessity for them arises.	No charitable relief seems necessary.	618 people are now on the works. No estimate of the future is given.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.							
WALWA Taluka (Extra 2nd Assistant Collector Mr. A. Shewa)											
The kharif yield will be 10 annas, and the rabi 8 annas. There are no prospects of further sowings this season, except in irrigated lands.	The probable remissions will be Rs.1,05,000 which the Revenue Commissioner considers high. The total amount of revenue is not given.	There has been no unusual mortality amongst the cattle, and none is anticipated.	There will be a general scarcity of water. Tagai must be advanced for deepening and digging wells.	Prices—Lbs. per Rupee.							
				Date.	Jowari.	Bajri.	Wheat.	Rice.	Gram.	Tur Dull.	Wari.
				1st Oct. 1876	21½	21½	21½	13½	21½	24½	—
				8th "	18½	18½	10½	10½	13½	13½	—
				15th "	21½	21½	16½	16½	16½	18½	—
				22nd "	21½	—	16½	16½	21½	16½	—
				29th "	18½	—	16½	13½	16½	14½	—
				6th Nov. 1876	17½	16½	14½	15½	14½	17½	—
				13th "	15½	15½	15½	15½	14½	14½	—
				20th "	15½	15½	14½	12½	16½	12½	—
				27th "	18½	18½	15½	18½	13½	17½	—
				4th Dec. 1876	18½	12½	15½	18½	16½	17½	—
				11th "	20½	16½	15½	15½	17½	17½	—
				18th "	21½	19½	20½	18½	17½	17½	—
				Average of six years -				37½	33½	22½	19½

TASGAON Taluka (Extra 2nd Assistant Collector Mr. A. Shewa)

The kharif yield will be 8 annas, and the rabi nothing. There are no prospects of further sowings this season.	The probable remissions will be Rs. 50,000. The total amount of revenue is not given.	Out of 51,674 cattle, 3,952 have died from starvation, and about 10,742 have been sent to the Konkan to graze. Further mortality is anticipated, unless the experiment of feeding cattle on prickly pear proves a success.	There will be a general scarcity of water. Tagai advances must be made for digging and deepening wells.	Prices—Lbs. per Rupee.						
				Date.	Jowari.	Bajri.	Wheat.	Rice.	Gram.	
				25th September 1876	24½	22	22	16½	22	22
				5th October 1876	22	20½	20½	17	22	22
				12th "	22	19½	17½	12½	17½	17½
				19th "	22	19½	15	13½	16½	16½
				26th "	21½	16½	13	11½	17½	16½
				2nd November 1876	16½	15½	12½	10½	16½	16½
				9th "	15½	16½	12½	11½	15½	15½
				16th "	16½	16½	12½	11½	14½	14½
				23rd "	16½	13	13½	10½	19½	19½
				30th "	16½	16½	14½	12½	17½	17½
				7th December 1876	18½	17½	14½	13½	17½	17½
				14th "	20½	20½	16½	13½	18½	18½
				Average of six years	48	42½	32½	18	28½	28½

KHATAU Taluka (District Deputy Collector's Report)

The kharif yield is 3 annas, and the rabi 6 annas. No further sowings are probable this season.	The revenue is Rs. 1,01,851, and the probable remissions Rs. 50,925.	Five cattle have died from starvation, and 180 more are likely to succumb. The live stock, other than agricultural, has been removed to the west.	There will be no great distress for want of water. Arrangements have been made to deepen existing, and excavate new, wells in villages where distress is felt.	Price—Lbs. per Rupee						
				Jowari.	Bajri.	Wheat.	Rice.	Gram.	...	
For the Week ending										
1st October 1876				-	22½	20	20	15	22½	2
7th "				-	22½	20	17½	15	20	1
14th "				-	17½	15	15	15	15	1
21st "				-	22½	20	17½	15	17½	1
28th "				-	22½	20	17½	15	17½	1
4th November 1876				-	22½	20	17½	15	17½	1
11th "				-	20	17½	15	12½	17½	1
18th "				-	15	12½	12½	10	12½	1
25th "				-	17½	15	15	12½	17½	1
2nd December 1876				-	17½	15	15	12½	17½	1
9th "				-	18½	15	15	12½	16½	1
16th "				-	20	17½	17½	12½	15	1
Average of six years				-	43½	40½	33½	18½	36½	2

PATAN Taluka (2nd Assistant Collector Mr. C. I.)

The yield of the kharif and rabi crops will each be at least 7 annas. There are no prospects of further sowings this season.	The probable remissions according to the Collector and his Assistant will be Rs.50,170, but the Revenue Commissioner considers this amount capable of reduction. The total revenue is not given.	There has been no unusual mortality amongst the cattle, and none is anticipated.	The greater part of this Taluka will not suffer from want of water; in a few villages in the highland and to the north, it will be necessary to dig new wells and deepen old ones.	For the Week ending	Prices—Lbs. per Rupee.							
					Jowari.	Bajri.	Wheat.	Rice.	Tur Pulse.	Gram.	Nachni.	Wheat.
				7th Oct. 1876	19 $\frac{1}{2}$	22	20 $\frac{1}{2}$	16 $\frac{1}{2}$	22 $\frac{1}{2}$	18 $\frac{1}{2}$	28 $\frac{1}{2}$	3
				15th "	21 $\frac{1}{2}$	22	17 $\frac{1}{2}$	14 $\frac{1}{2}$	20 $\frac{1}{2}$	18 $\frac{1}{2}$	28 $\frac{1}{2}$	3
				23rd "	21 $\frac{1}{2}$	20 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	17 $\frac{1}{2}$	18 $\frac{1}{2}$	28 $\frac{1}{2}$	3
				31st "	18 $\frac{1}{2}$	18 $\frac{1}{2}$	16 $\frac{1}{2}$	15	17 $\frac{1}{2}$	16 $\frac{1}{2}$	26 $\frac{1}{2}$	3
				7th Nov. 1876	16 $\frac{1}{2}$	16 $\frac{1}{2}$	13 $\frac{1}{2}$	13 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	26 $\frac{1}{2}$	2
				15th "	15 $\frac{1}{2}$	16 $\frac{1}{2}$	15	13 $\frac{1}{2}$	15	16 $\frac{1}{2}$	25 $\frac{1}{2}$	2
				23rd "	17 $\frac{1}{2}$	16 $\frac{1}{2}$	16 $\frac{1}{2}$	13 $\frac{1}{2}$	15	16 $\frac{1}{2}$	25 $\frac{1}{2}$	2
				30th "	18 $\frac{1}{2}$	19 $\frac{1}{2}$	17 $\frac{1}{2}$	15	15	16 $\frac{1}{2}$	25 $\frac{1}{2}$	2
				7th Dec. 1876	18 $\frac{1}{2}$	19 $\frac{1}{2}$	17 $\frac{1}{2}$	15	17 $\frac{1}{2}$	20 $\frac{1}{2}$	25 $\frac{1}{2}$	3
				15th "	18 $\frac{1}{2}$	22	20 $\frac{1}{2}$	16 $\frac{1}{2}$	17 $\frac{1}{2}$	21 $\frac{1}{2}$	25 $\frac{1}{2}$	3
				Average of six years - j	40 $\frac{1}{2}$	30 $\frac{1}{2}$	28 $\frac{1}{2}$	23 $\frac{1}{2}$	23	21 $\frac{1}{2}$	52 $\frac{1}{2}$	

ntinued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Report forwarded with Collector's Letter, dated 27th December 1876).

26 tons of grain are estimated to be in store, independent of the current year's harvest; the Collector considers this amount under-estimated, and the Revenue Commissioner considers it quite impossible to form an approximate estimate on this subject. Grain is imported from Bombay <i>via</i> Chiplun and Poona. Private enterprise will supply the market; the Collector anticipates a rise in prices about two months hence.	The Collector's estimate of the population is 133,122; whereas the Mamlatdar fixes the number at 158,641, of whom 115,728 are high caste, and 42,913, low caste; 37,000 are purely, and 12,700 partly agricultural. The majority of the people are Mahrattas, among whom there are no large landholders willing to aid their tenants.	No emigration has yet taken place, but it may be expected about the end of February.	The present relief works are sufficient for the present. As regards the future, the Revenue Commissioner is of opinion that irrigation works should be selected in preference to all others.	About 60 persons are being supported by a Relief Committee at Ashta.	The number at present on relief works is 1,235. Government will have to afford gratuitous relief on 1st March to 200, on 1st May and 1st July to 500; the number likely to be employed on works will be 3,000 in March, 5,000 in May, and 2,000 in July, provided rain falls freely; if it does not, about 10,000
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Report forwarded with Collector's Letter, dated 27th December 1876).

There are upwards of 2,866 tons of grain in the Taluka; imports are chiefly from Chiplun and Poona <i>via</i> Satara. The Collector anticipates a rise in prices two months hence; private enterprise will supply the market.	The Collector estimates the population at 115,491, the majority of whom are Mahrattas, poor and agricultural; whereas the Mamlatdar gives the following estimate:—3,797 high caste, 84,178 low caste, total 87,975, of whom 67,357 are purely, and 9,622 partly, agricultural. There are a few wealthy landholders from whom, however, no aid can be expected.	14,505 people have emigrated, some to the Konkan, and others to the Berars and Hyderabad. Those who left for the Konkan are returning, the others have remained, having presumably bettered themselves. The Collector anticipates further emigration in a month or two, though the Revenue Commissioner cannot well see where the people can go, as there is distress all around.	The present nine works consisting of tank clearances, road repairs, and cutting prickly pear, are sufficient for the present.	About 323 infirm people are being supported daily from private subscriptions.	Government have at present 2,748 labourers on their hands and none requiring charitable relief. The number of the former will swell to about 16,000 on 1st March, 24,500 on 1st May, but probably none will remain in July. The number requiring charitable relief on each of the above dates will be 700, 1,000, and 1,200 respectively.
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Report forwarded with Collector's Memorandum, dated 6th January 1877).

The present supply of grain is sufficient, and is imported from Poona, Satara, Chiplun, and Patan. Prices have fallen, and private enterprise will supply the market.	There is a population of 83,427, divided as follows: 66,859 high caste, of whom 55,199 are poor, and 11,660 well-to-do; and 16,568 low caste, of whom 15,904 are poor, and 664 well-to-do. Of these, 60,552 are purely, and 22,875 partly, agricultural. There are no large landholders likely to assist their tenants.	About 4,000 people have emigrated to Bombay, Berar, and the Nizam's territory, and have bettered themselves.	The Nehr and Pingli tanks and road repairs are in progress, and are sufficient for the present. By-and-bye the Warug-Pusegaon Road, and planting roadside trees should be undertaken.	At present 118 incarpables are being supported from private sources.	At present there are 7,681 labourers on relief works; in addition to this number, employment must be found for 10,000 on 1st March, 12,000 on 1st May, and 6,000 on 1st July.
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Jopp's Report, dated 24th December 1876).

There are stores of about 256,000 lbs. of grain in the taluka, besides which almost each family has sufficient for its own consumption for a month or two. Grain is imported chiefly from Bombay and Chiplun. Prices have fallen, and private enterprise will supply the market.	The population is 110,000; of this 107,844 are low caste, 1,000 being well-to-do, and 106,844 poor, and 2,000 are high caste, 500 being well-to-do, and 1,500 poor; 40,350 are purely, and 69,494 partly, agricultural. A few landholders of alienated villages will grant remissions to their tenants.	About 115 people have emigrated to Bombay and to the relief works at Karad. Further emigration is expected in the hot weather.	There are at present no relief works in progress, but when absolutely necessary six works can be undertaken.	No gratuitous support has been given.	No persons are at present dependent on Government either by charity or on works. The number likely to require relief on works on 1st March is 500, 1st May 1,500, and 1st July 2,000, and by charity on each of the above dates 50, 100, and 300.
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Statistics
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a.	b.	c.	d.	e.
KARAD Taluka (2nd Assistant Collector Mr. C. I)				
The kharif yield may be taken at 11 annas, and the rabi at 10 annas. There are no prospects of further sowings this season.	The Assistant Collector estimates the remissions at Rs. 65,078, but the Collector sees no reason for any remissions save in exceptional cases. The total revenue is not given.	There has been no unusual mortality amongst the cattle, and none is anticipated.	There is no reason to dread a scarcity of water in any but a few hill villages, where wells will be deepened.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Bajri.
				Rice.
				Wheat.
				Tur Dali.
				Gram.
				Nachni.
				W.
				1st Oct. 1876 23 ¹ / ₂ 23 ¹ / ₂ 15 ¹ / ₂ 18 ¹ / ₂ 19 ¹ / ₂ 20 ¹ / ₂ 21 ¹ / ₂ 26
				8th " 23 ¹ / ₂ 23 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 17 ¹ / ₂ 19 ¹ / ₂ 21 ¹ / ₂ 26
				15th " 23 ¹ / ₂ 23 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 17 ¹ / ₂ 19 ¹ / ₂ 21 ¹ / ₂ 26
				22nd " 23 ¹ / ₂ 23 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 16 ¹ / ₂ 18 ¹ / ₂ 21 ¹ / ₂ 21
				29th " 23 ¹ / ₂ 23 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 16 ¹ / ₂ 18 ¹ / ₂ 21 ¹ / ₂ 21
				5th Nov. 1876 21 ¹ / ₂ 18 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 15 ¹ / ₂ 16 ¹ / ₂ 21 ¹ / ₂ 19
				12th " 18 ¹ / ₂ 16 ¹ / ₂ 13 ¹ / ₂ 14 ¹ / ₂ 15 ¹ / ₂ 16 ¹ / ₂ 21 ¹ / ₂ 19
				19th " 15 ¹ / ₂ 16 ¹ / ₂ 12 ¹ / ₂ 13 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 16 ¹ / ₂ 15
				26th " 15 ¹ / ₂ 16 ¹ / ₂ 12 ¹ / ₂ 13 ¹ / ₂ 13 ¹ / ₂ 15 ¹ / ₂ 16 ¹ / ₂ 15
				3rd Dec. 1876 17 ¹ / ₂ 16 ¹ / ₂ 13 ¹ / ₂ 14 ¹ / ₂ 15 ¹ / ₂ 18 ¹ / ₂ 18 ¹ / ₂ 15
				10th " 17 ¹ / ₂ 16 ¹ / ₂ 13 ¹ / ₂ 14 ¹ / ₂ 15 ¹ / ₂ 20 ¹ / ₂ 18 ¹ / ₂ 16
				17th " 17 ¹ / ₂ 19 ¹ / ₂ 13 ¹ / ₂ 17 ¹ / ₂ 16 ¹ / ₂ 20 ¹ / ₂ 21 ¹ / ₂ 19
				Average of six years - 42 ¹ / ₂ 39 ¹ / ₂ 21 ¹ / ₂ 28 ¹ / ₂ 26 ¹ / ₂ 31 ¹ / ₂ 52 ¹ / ₂ 50

KHANAPUR Taluka (2nd Assistant Collector Mr. C. H)

The kharif yield is 4 and the rabi 2 annas. There are no prospects of further sowings this season.	The probable remissions will amount to Rs. 72,858. The total revenue is not given.	The total number of cattle amounts to 90,000. About 3,042 have left the taluka for the ghats, and 251 have died from starvation, but these were chiefly useless animals, and 500 more of them are expected to perish within three months. Towards the end of March there will be a great scarcity both of fodder and water, and most of the cattle will have to be driven to the ghats, where, should the grazing prove insufficient, as is probable, about 20,000 more may perish. People have been told to try the prickly pear, but as yet have not taken to it.	Villages on the Yerla have a plentiful supply of water, in other villages it is obtained from wells and holes dug in the beds of nullahs. Where the water supply entirely fails, the villages must be moved, and where it has partially failed wells must be constructed or deepened.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Bajri.
				Rice.
				Wheat.
				Tur Pulse.
				Gram.
				7th October 1876 - 20 ¹ / ₂ 20 ¹ / ₂ 14 ¹ / ₂ 18 ¹ / ₂ 14 ¹ / ₂ 13 ¹ / ₂
				15th " - 20 ¹ / ₂ 20 ¹ / ₂ 14 ¹ / ₂ 18 ¹ / ₂ 14 ¹ / ₂ 14 ¹ / ₂
				23rd " - 20 ¹ / ₂ 20 ¹ / ₂ 14 ¹ / ₂ 18 ¹ / ₂ 14 ¹ / ₂ 14 ¹ / ₂
				31st " - 20 ¹ / ₂ 20 ¹ / ₂ 14 ¹ / ₂ 18 ¹ / ₂ 14 ¹ / ₂ 14 ¹ / ₂
				7th November 1876 - 17 ¹ / ₂ 16 ¹ / ₂ 11 ¹ / ₂ 15 ¹ / ₂ 12 ¹ / ₂ 15 ¹ / ₂
				15th " - 17 ¹ / ₂ 16 ¹ / ₂ 11 ¹ / ₂ 15 ¹ / ₂ 12 ¹ / ₂ 15 ¹ / ₂
				23rd " - 17 ¹ / ₂ 12 ¹ / ₂ 9 ¹ / ₂ 13 ¹ / ₂ 12 ¹ / ₂ 17 ¹ / ₂
				30th " - 17 ¹ / ₂ 12 ¹ / ₂ 9 ¹ / ₂ 13 ¹ / ₂ 9 ¹ / ₂ 18 ¹ / ₂
				7th December 1876 - 16 ¹ / ₂ 15 ¹ / ₂ 12 ¹ / ₂ 13 ¹ / ₂ 12 ¹ / ₂ 18 ¹ / ₂
				15th " - 17 ¹ / ₂ 18 ¹ / ₂ 14 ¹ / ₂ 17 ¹ / ₂ 13 ¹ / ₂ 19 ¹ / ₂
				Average of six years - 45 ¹ / ₂ 30 ¹ / ₂ 20 ¹ / ₂ 31 ¹ / ₂ 22 ¹ / ₂ 30 ¹ / ₂

MÁN Taluka (District Deputy Collector's Report forwarded)

The kharif yield is about 3 annas and the rabi nil. There are no prospects of further sowings this season.	Out of the total revenue of Rs. 70,655, the probable remissions will amount to Rs. 52,991.	The total numbers of horned cattle is 42,063, of which 523 have died, and 9,844 more will probably succumb, in fact, the Deputy Collector thinks one third of the live stock will be lost. No mortality has occurred amongst the 96,217 sheep. Leaves of trees and sugarcane are being used as fodder. Preparing prickly-pear is found too expensive for the ryots to undertake.	Many villages will be short of water; wells are being deepened and excavated.	Prices—Lbs. per Rupee.
				For the Week ending
				Jowari.
				Bajri.
				Wheat.
				Rice.
				Gram.
				Pulse.
				1st October 1876 - 17 ¹ / ₂ 20 21 ¹ / ₂ 17 ¹ / ₂ - 20 ¹ / ₂
				7th " - 17 ¹ / ₂ 20 21 ¹ / ₂ 17 ¹ / ₂ - 20 ¹ / ₂
				21st " - 19 ¹ / ₂ 17 ¹ / ₂ 19 ¹ / ₂ 14 ¹ / ₂ - 16 ¹ / ₂
				28th " - 16 ¹ / ₂ 17 ¹ / ₂ 16 ¹ / ₂ 14 ¹ / ₂ - 16 ¹ / ₂
				4th November 1876 - 16 ¹ / ₂ 17 ¹ / ₂ 14 ¹ / ₂ 14 ¹ / ₂ - 13 ¹ / ₂
				11th " - 16 ¹ / ₂ 17 ¹ / ₂ 14 ¹ / ₂ 14 ¹ / ₂ - 13 ¹ / ₂
				18th " - 14 ¹ / ₂ 15 14 ¹ / ₂ 12 ¹ / ₂ - 11 ¹ / ₂
				25th " - 14 ¹ / ₂ 15 14 ¹ / ₂ 9 ¹ / ₂ - 11 ¹ / ₂
				2nd December 1876 - 16 ¹ / ₂ 14 ¹ / ₂ 13 ¹ / ₂ 16 ¹ / ₂ 16 ¹ / ₂ 10
				9th " - 19 ¹ / ₂ 16 ¹ / ₂ 15 ¹ / ₂ 14 ¹ / ₂ 19 ¹ / ₂ 19 ¹ / ₂
				16th " - 19 ¹ / ₂ 16 ¹ / ₂ 15 ¹ / ₂ 14 ¹ / ₂ 19 ¹ / ₂ 19 ¹ / ₂
				Average of six years - 44 ¹ / ₂ 42 ¹ / ₂ 29 ¹ / ₂ 17 ¹ / ₂ - 23 ¹ / ₂

GENERAL

Of the 11 talukas the crops in seven seem to be fair, in two indifferent, and in two bad.

The proposed remissions amount, on what appears to be an outside estimate, to Rs. 507,621.

In eight talukas the condition of the cattle seems satisfactory, in one indifferent, and in two bad.

In six talukas the prospects of the water supply appear satisfactory, and in five indifferent. No calamity due to failure of water supply is anticipated by Government.

No apprehensions are entertained regarding the grain supply.

The majority of the population of this as of all other Collectorates is either agricultural or very intimately connected with agriculture. 45,163 people out of a population of 1,064,002 seem to have emigrated, some have returned, but further emigration is expected. It appears to be partly a cattle movement, and partly the annual movement in search of labour intensified by the present scarcity.

The chief relief works are the Nehr and Pingli irrigation tanks.

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Statistics
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Presidency.

f.	g.	h.	i.	j.	k.
pp's Report, dated 24th December 1876).					
Local stocks are estimated at 1,296,000 pounds. Grain is imported from Chiplun and Poona in two quantities, and prices have fallen; whether any further fall will take place is doubtful. Private enterprise will supply the market.	There are 13,337 high caste people, 11,670 being well-to-do, and 1,667 poor; 117,573 low caste, 29,394 being well-to-do, and 88,179 poor; 35,733 are purely, and 17,866 partly, agricultural; the rest are manufacturers, tradesmen, &c. There are no landholders who will assist their tenants.	The usual number, viz., about 1,000, have left for Bombay for employment, and more will follow.	The present relief work, the Karad-Tasgaon Road, is found sufficient. Later in the season four other road-works will be undertaken.	No charitable aid has been given.	At present there are 500 on Government works; these will increase on 1st March to 1,000, 1st May to 2,500, and 1st July 2,500; no infirm people are being supported at present, but on each of the above dates the numbers will be about 50, 150, 150.

pp's Report, dated 23rd December 1876).

Local stocks of grain are estimated to amount to 3,360,000 lbs.; and weekly importations are made from Chiplun, Satara, and Poona. Prices have fallen, but the Collector anticipates a rise shortly. Private enterprise will supply the market.	The total population is 84,415, of whom 71,499 are high caste, 64,209 of them being poor, and 7,140 well-to-do; 13,008 low caste, 12,746 being poor, and 260 well-to-do. Of these again 33,000 are purely, and 35,000 partly, agricultural; one fourth are money lenders, and the rest manufacturers and artisans. A few landholders may grant remissions to their tenants.	4,098 people have emigrated, some to Bombay, others to the Nehr, Pingli, and Islampur works, and have not suffered in consequence. There will be further emigration to the Nehr Tank, and large numbers will accompany their cattle to the ghâts.	At present there are three road works, one tank, and digging pits for road-side trees in progress, but they should be supplemented by three more tanks.	No charitable expenditure has as yet been incurred.	At present there are 11,254 people on relief works. The number of people requiring relief on works will be 6,000 on 1st March, 7,000 on 1st May, and 2,000 on 1st July; and by charity on each of the above dates there will be 200, 400, and 500.
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with Collector's remarks, dated 6th January 1877).

The present stock of grain is estimated at 380,856 lbs. It is imported from Satara, Pandharpur, and Diksal via Phaltan and the Mogoolo ghât. Prices have fallen, and private enterprise will supply the market.	The population is 70,572, of whom 51,930 are high caste, 39,606 being poor, and 12,324 well-to-do; and 18,042 low caste, 17,286 being poor, and 1,856 well-to-do; of these, 31,530 are purely, and 29,206 partly, agricultural, and 9,816 urban. There are no landholders able to assist their tenants.	16,275 people have emigrated, 7,000 to relief works in the taluka, and the rest to Bombay, towards Berar and the Nizam's territory, and have bettered themselves. None have returned, and 5,000 are likely to follow.	The relief works in progress at present consist of two road works, three wells, and a tank, and miscellaneous projects for improving the water supply, but they are not sufficient and must be supplemented by five more road works and two tanks.	Persons are at present being charitably relieved.	At present there are 7,266 labourers on the works. Their numbers will increase on 1st March to 22,000, 1st May 27,000 and 1st July 17,000.
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OBSERVATIONS.

The expenditure upon charity has been trifling.
The number of labourers anticipated to be upon the hands of Government is about—

On March 1st	-	-	-	-	70,500
On May 1st	-	-	-	-	92,500
On July 1st	-	-	-	-	45,500

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

Statistics
relating to
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districts in
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Presidency.

KANARESE DIVISION.—REVENUE

KALADGI DISTRICT.—COLLECTOR

	TALUKAS.	Area in Square Miles	Population.	Government realisable Revenue in 1875-76.
				Rs.
1. Indi	-	837	105,475	1,97,090
2. Muddebihal	-	552	83,848	1,25,681
3. Sindgi	-	792	99,798	2,12,567
4. Bāgewāri	-	757	93,738	1,84,134
5. Bāgalkot	-	684	110,185	1,30,839
6. Bādāmi	-	690	130,816	1,04,476
7. Hungund	-	518	105,866	1,19,694
8. Bijāpur	-	865	86,311	1,33,635
Total	-	5,695	816,037	12,08,116

KALADGI

a.	b.	c.	d.	e.
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BAGALKOT (Acting First Assistant Collector)

The kharif harvest will yield a half anna crop, and the rabi the same. There is now no prospect of further sowings this season.

The Assistant Collector estimates the probable amount of remissions at about one fifth (30,598) and the Collector at one fourth (38,223) of the total revenue (Rs. 1,52,892), but no correct estimate can be given before the jamābundi.

No mortality as yet among agricultural cattle. Among other cattle about 1,000 have died. This taluka is better off for fodder than other parts of the Kaladgi district; there is enough to last till the end of February. The experiment of prickly-pear as fodder has been tried, but not with much success as yet. All valuable animals have been taken to the Kanara jungles to graze. It is anticipated that about one-sixteenth (3,701) of the whole number in the taluka (59,215) may die hereafter. They will be the worst of the cattle, useless for agricultural purposes.

The water-supply is chiefly from the rivers and from shafts sunk in the larger nullahs; but as the water in the rivers is unusually low this year, it is feared that there will be a failure to a certain extent. Steps are being taken to clear out and deepen existing wells.

For the Week ending	Prices—Lbs. per Rupee.					
	Jowāri.	Wheat.	Rice.	Gram.	Dall (Tur).	Bajri.
1st October 1876	32	26	18	22	34	30
7th " "	24	22	16	18	20	24
15th " "	20	16	11	18	14	18
23rd " "	20	17	12	16	16	22
31st " "	16	14	12	17	14	15
7th November 1876	14	13	11½	15	14	14
15th " "	12	12	11½	14	12	12
23rd " "	12	12	11	14	13	15
30th " "	13	13	11½	15	13	13
7th December 1876	15	14	12	16	13	15
15th " "	15	14	12	16	16	16
19th " "	17	15	12	17	16	16
Average for six years, 1870-75.	51	26	20	24	28	48

HUNGUND (Acting First Assistant Collector)

The kharif harvest has yielded a 2-pie, and the rabi a 1-pie crop. The crops have been almost a complete failure. There is no prospect of further sowings this year.

The Assistant Collector considers that about Rs. 30,000 will have to be remitted, but the Collector thinks it probable that the amount will be greater; but the exact sum can be ascertained only at the jamābundi.

About 1,500 deaths have occurred among cattle; how many of these are among agricultural stock is not stated, and about 2,500 more have been sold to butchers at prices varying from 4 annas to Rs. 2. The Assistant Collector thinks it possible that some 25,000 may die before the rains, but this will include a large number of worthless animals. Most of the really valuable cattle were driven out of the district at the commencement of the scarcity. Feeding on prickly-pear is being tried, but without much success.

This taluka is—excepting the villages on the Krishna and the Malprabha, badly off for water, and great scarcity is apprehended in the hot weather. The only remedy will be to clear out and deepen the wells in the hope of thereby reaching more copious springs.

For the Week ending	Prices—Lbs. per Rupee.					
	Jowāri.	Wheat.	Rice.	Gram.	Dall (Tur).	Bajri.
7th October 1876	24	17	14	18	18	20
15th " "	20	17	13	16	16	18
23rd " "	20	17	12	16	16	20
31st " "	18	16	11	14	15	16
7th November 1876	16	14	11	14	14	16
15th " "	12	12	10	12	12	12
23rd " "	13	12	10	13	12	14
30th " "	11	10½	10	14	12	12
7th December 1876	13	13	12	14	13	13
15th " "	14	14	12	16	14	16
23rd " "	14	12	12	14	14	14
Average for six years, 1870-75.	32	40	16	40	36	62

COMMISSIONER—MR. A. E. D. GREY.

R. C. M. HOGG.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Rough Proportion of <i>Kharif</i> to <i>Rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
70,192	272,579	27.32	3.98
102,846	100,123	24.46	5.14
30,613	328,824	20.83	6.53
99,003	194,701	23.98	6.18
86,230	69,188	22.77	8.87
84,600	37,940	22.0	7.17
69,357	96,714	20.22	7.49
227,845	84,602	17.90	3.71
770,686	1,184,671		

KALADGI.

<i>f</i> .	<i>g</i> .	<i>h</i> .	<i>i</i> .	<i>j</i> .	<i>k</i> .
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Mr. J. F. Fleet's Report, dated 21st December 1876).

The local stock is estimated at from 5,357 to 7,143 tons. Grain is imported in large quantities from Sholapur and Belgaum, and prices have in consequence declined to some extent and are likely to continue falling should importation be kept up; but some importers have lost by being undersold, and the local dealers have a great command over the market.

The people are generally poor; about 35 per cent. are of the labouring class, including a large number of ryots, with very small holdings, who eke out their means by working in the fields of others. The remaining proportion (about 65 per cent.) are ryots, traders, and artisans of fair means, and persons in Government employ. The landholders are rich and able to help their tenants and followers, and will, in the opinion of the Assistant Collector, do so by loans; but the Collector does not think the landholders, with the exception of a very few of the very wealthy ones, are likely to do much for their tenants.

According to the Assistant Collector's report, about 4,000 people have left the taluka and have bettered themselves by so doing; but the Collector thinks the number to be underestimated, and that at least 10,000 people must have left; some with their cattle, and others in search of employment. The commencement of the relief works has, however, stopped further emigration. It is not probable that many will now leave; on the contrary, some who left are already returning.

The Sholapur-Hubli road is in progress, as also the Turchigiri and the Gangershivani tanks and several other relief works. The Belgaum-Hungund road will be commenced as soon as sanctioned. This work and those already started will, the Collector thinks, suffice for the present.

The Mamlatdar Bilge has 450 and the Bilge Mahalkari Rs. 200 available for charitable relief to travellers and to the aged, infirm, &c.; but little has been spent on this account, as no such relief has been called for. A fund of Rs. 8,593 has also been raised by private subscription for this purpose.

The number of persons now employed on relief works is not stated, but the Assistant Collector reports that according to the Mamlatdar's estimate, the maximum, prior to 31st May next, will be about 41,000 persons on relief works, and about 6,000 to be supported by charity.

Mr. J. F. Fleet's Report, dated 27th December 1876).

It is difficult to obtain accurate information regarding local stocks; the Assistant Collector estimates them at 813 and the Collector at 1,161 tons, which will not last longer than the end of March. There is very little probability of private importations to any large extent, as there are no merchants of wealth and enterprise in this taluka. Supplies come *via* Belgaum and Solapur, the former 128 and the latter 150 miles from Hungund.

The proportions of high and low castes are about three fourths and one fourth respectively. The agricultural class numbers about 50,000, artisans, traders, Government servants, &c. about 40,000, and the remainder about 10,000, are agricultural and other labourers. The only wealthy landholders are the Amraoti and Hulginhal Desais, both of whom are likely to help their tenants and followers.

Emigration has been checked by relief works being opened and by the return of people who left the district early in the season for the Nizam's dominions and the Ghats, but failed to better themselves, and brought back reports of cholera.

The chief special relief work in progress is the Sholapur-Bellary road, which passes through Hungund. The Hungund, Amingad, and Yerankeri tanks are also in hand, as well as ordinary local projects, such as roads and tank clearances. It is proposed to take up similar works as occasion may require.

The amount spent in gratuitous relief is small. Subscription funds had been formed at some of the principal towns, but the subscriptions have not been liberal.

In the Assistant Collector's opinion, 38,320 will be the maximum number that the Government will have on their hands during the season, of which 34,597 can be employed on works, and 3,723 will have to be supported by charity. He puts down about 20,000 people on 1st March, 30,000 on 1st April, and the full number on the 1st May. The Collector considers these estimates somewhat high, and that about 25 per cent. of the population may require relief.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.
SINDGI (Supernumerary Assistant)				
The kharif harvest has yielded a crop of 3, or at the utmost 4, annas. Rabi crop there is none. There is now no prospect of further sowings this season.	The Mamlatdār estimates that four fifths (Rs. 1,60,000) of the whole revenue (Rs. 2,00,000) will have to be remitted, and the Assistant Collector thinks this a fair estimate, but the Collector considers it a high one; but no correct estimate can be given before the jamabundi.	About 20,000 cattle have died or been sold to butchers; and an equal number have been conveyed to the Nizam's Dominions and the Ghâts in search of fodder. There is among the wealthy ryots sufficient fodder in this taluka for about 10,000 cattle for 3 or 4 months. The poorer classes are feeding their cattle on the leaves of trees. An attempt has been made to utilise prickly pear as fodder, but as yet with little success. The Assistant Collector offers two suggestions for preserving the cattle: First, that the best cattle be selected by Government Officers and conveyed to the Ghâts; and, secondly, that if prickly-pear can be used as food, Government undertake its preparation and feeding cattle thereon; the Collector thinks it would not be worth while to attempt conveying the cattle to the Ghâts, as many may not survive the journey.	The water-supply is very fair, the taluka being intersected in all directions by nullas, and water can always be had by digging holes in their beds. No scarcity of water is apprehended.	Prices—Lbs. per Rupee
				For the Week ending
				Jowari. Bajri. Wheat. Gram. Rice. Dal.
				2nd October 1876 - 40 38 32 28 16 27
				9th " - 32 32 26 26 16 24
				16th " - 24 22 20 22 16 20
				23rd " - 22 20 20 22 16 20
				30th " - 24 24 18 18 18 16
				6th November 1876 - 23 23 18 18 16 16
				13th " - 16 16 16 16 14 16
				20th " - 15 16 14 14 12 16
				27th " - 16 18 16 18 12 16
				4th December 1876 - 18 18 16 20 14 18
				11th " - 18 18 17 20 14 18
				Average for the last six years. 72 — — — —

BADAMI (Acting 1st Assistant Collector)

The Assistant Collector estimates the yield of the kharif harvest at 4 annas, and that of the rabi at 5 annas 4 pies, but the Collector considers these estimates incorrect, as only half of the kharif and one quarter of the rabi crop have been sown. The Assistant's estimates may represent, he thinks, the yield of the land actually sown. No prospect of further sowings this season.	The Assistant Collector estimates the remissions to be about Rs. 25,000, which the Collector believes to be under the mark. The exact amount can be determined only at the jamabundi.	5,000 deaths are stated to have occurred among agricultural stock, and 3,500 among other cattle; of these, about 1,000 deaths are attributed to want of fodder. It is estimated that the total numbers that may die this year will be, of agricultural stock about 11,000, and of other cattle about 7,000. Fodder is scarce, and numbers of cattle have been and are being sent off to the Ghâts and Kanara. The experiment of utilising prickly-pear as fodder may possibly be successful, but at present the owners do not care to undertake the trouble and expense of preparing the leaves on their own account.	The Assistant Collector does not apprehend the supply of water running short before the monsoon, as a year's supply was provided by the rains which fell late in the season. The Collector, however, anticipates a scarcity of water next hot season.	Prices—Lbs. per Rupee
				For the Week ending
				Jowari. Wheat. Rice. Gram. Tur Dal. Bajri.
				1st October 1876 - 32 28 20 22 20 32
				8th " - 32 26 18 18 18 32
				15th " - 22 18 16 14 16 22
				22nd " - 20 16 14 14 14 20
				29th " - 22 18 14 14 14 22
				5th November 1876 - 18 16 13 14 14 18
				12th " - 13 13 12 13 12 13
				19th " - 16 12 12 14 13 18
				26th " - 13 11 13 13 13 14
				3rd December 1876 - 15 12 13 13 12 16
				10th " - 15 13 13 14 12 16
				17th " - 16 13 13 16 12 16
				Average for six years, } 52 26 24 26 30 52 1870-71 to 1875-76 }

BÁGEWÁRI Taluka (District Deputy Collector)

The kharif harvest will yield a crop of one pie, and the rabi $\frac{1}{2}$ of a pie. No further sowings this season.	The amount that will have to be remitted is estimated by the District Deputy Collector at three quarters (Rs. 155,440) of the whole assessment, Rs. 2,07,253. The Collector, however, considers this estimate too high.	Of cattle and agricultural stock numbering 53,875, exclusive of sheep, 8,400 are reported to have died from all causes, and 16,100 to have been taken to Kanara, the Nizam's dominions, &c. in search of fodder. The Mamlatdār anticipates the future mortality at about 14,700. The permission accorded for free grazing of cattle in Government forests have not been taken advantage of, owing to the length of the journey. A few who can afford it have imported and laid in a stock of kirby, but those who cannot afford to do this feed their cattle on leaves of trees. Experiments to utilise the prickly-pear as fodder have as yet succeeded only to a very slight extent.	The chief source of water-supply is the river Krishna, which, however, is immediately available only to the eleven villages situate on it. The remaining villages depend for their water-supply on wells and pools in beds of nullahs. These sources are likely to fail earlier this year than in ordinary seasons. The remedial measures proposed are the clearance of wells and the sinking of new ones.	Prices—Lbs. per Rupee
				For the Week ending
				Jowari. Bajri. Wheat. Gram. Rice. Tur Dal.
				2nd October 1876 - 34 32 30 24 16 24
				9th " - 32 30 26 20 16 18
				16th " - 28 24 18 16 12 18
				23rd " - 24 20 16 16 12 18
				30th " - 22 18 18 15 11 16
				6th November 1876 - 20 18 18 13 11 16
				13th " - 14 12 14 12 11 15
				20th " - 12 12 12 12 10 14
				27th " - 12 12 12 12 11 11
				4th December 1876 - 16 16 16 16 12 16
				11th " - 16 16 16 16 12 16
				18th " - 16 16 16 16 13 17
				Average for six years 66 90 36 34 18 32

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Director Mr. H. Silcock's Report, dated 22nd December 1876).

f.	g.	h.	i.	j.	k.
It is difficult to ascertain exactly what the local stocks are, but they are of large; and the importations from Sholapur are barely sufficient to keep down prices to a fair level. There are not many wealthy merchants in the taluka, and there is a want of enterprise, the condition of the food supply will be a cause of anxiety throughout the season.	The population is of a mixed character. Agriculture is their chief occupation, and the ryots are in general fairly comfortable. The Inamdars are not wealthy, being mostly in debt, and will be unable to help their tenants.	Emigration to the Nizam's dominions has taken place to a considerable extent, the number being between 25,000 and 30,000. As a rule, the people have bettered themselves; it still continues towards the Konkan but at a decreasing rate. Some who left are returning to obtain employment on the relief works.	The relief works already started appear sufficient for the present. The Assistant Collector specifies others which can be taken up as occasion requires. He also recommends the construction, when the works in progress are concluded, of a tank at Hippargi.	No relief has yet been given to travellers, as they have not been found to require it. Private charity has done much to assist the aged and the infirm, &c. The Mamlatdar has been advanced Rs. 450 for charitable relief, which sum seems sufficient for present wants.	The number of persons now employed on relief works is about 4,000; that relieved by charitable measures only 14, which is likely to increase as private charity ceases. The number on relief works on the 1st March will probably amount to 15,000 or 20,000, and that receiving charitable reliefs to about 500, which number is likely to remain the same up to 1st May. By 1st July, if rain should fall, the number will probably have decreased to 8,000, but the number requiring charitable relief will remain the same.

Mr. J. F. Fleet's Report, dated 2nd December 1876).

The Assistant Collector estimates the local stocks of grain to be small (about 107 tons). The Collector thinks his Assistant is mistaken, and that the stocks amount to 1,714 tons. Small quantities have been coming in from Sholapur and from the Hubli and Coomta directions, and prices have in consequence gone down. There are not many traders of wealth and position likely to enter into extensive importations.	Three-fourths of the people (taking the total population at 125,000) are high-caste, the rest low-caste. About 75,000 are purely agricultural, the rest are traders, artisans, Government servants, &c., and ryots who trade as well as cultivate. The only large landholders are Ghorepade of Gajendragad and the Kerur Dessai. The former is much involved and unable to help his tenants; the latter, though well-to-do, is niggardly, and not likely to do anything in the way of help.	About 15,000 people have already emigrated; whether they have bettered themselves by so doing is not known. The Collector does not think that further emigration is probable, but that, on the contrary, many of those who have left their homes will return.	The great special relief work now in hand is the Sholapur-Hubli road, besides which several petty local projects are in progress. Estimates for several tanks are in course of preparation.	The Mamlatdar has Rs. 450 available for charitable relief, but does not state how much of this sum has been spent. Private subscription funds are being formed in the large towns, and the German missionaries have been asked to co-operate in administering the fund at Gulegad.	The number of persons Government has on their hands for relief at date of report is not stated. The Assistant Collector estimates that by March there will be 15,000 persons seeking employment, and that 3,000 will require charitable aid. The number is expected to diminish in April, if rain falls, or may increase if the drought continues. The Collector expects that he will have 25 per cent. of the people on his hands before the close of the hot weather.
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Mr. Balkrishna Devrao's Report, dated 28th December 1876).

There are no means of ascertaining with accuracy the local stocks, but the District Deputy Collector estimates the quantity as sufficient for about five months. Sholapur is the central railway station from which supplies are drawn. Private enterprise has imported grain largely, which has had the effect of slightly lowering prices, and of inducing private holders of stores to bring theirs to market. Private importation, if continued, will be sufficient to meet all wants, and another fall in prices may be expected; but it is apprehended that when the supply of fodder, which is not expected to last beyond a couple of months, is exhausted, the importations of grain will cease.	The population consists of all castes, but chiefly of Lingayets. The low castes also form a considerable portion. The population is purely agricultural. The general condition of the people is good. There are no wealthy persons in the taluka; but there are a few large landholders who assist their tenants.	About 6,400 people have emigrated to Kanara and the Nizam's dominions; but not faring well there some have returned and others are expected to return. There is no likelihood of further emigration.	Certain tank works are in progress, besides some minor works, such as clearing out wells, repairing roads, and cutting prickly-pears, giving employment to about 1,900 people. The Hubli and Sholapur road is also being metalled by the Public Works Department, and employs about 1,200 men. Certain new works (excavation of tanks in different localities) have been proposed by the District Deputy Collector as relief works, entailing an expenditure of Rs. 38,500. Also the completion of the tanks now in progress at Mulwar-Satibaland Bagewari, at an outlay of Rs. 6,000. These works are considered sufficient to give employment to the able-bodied.	A fund of about Rs. 2,200 has been raised by private subscription. The number of travellers and aged and infirm people fed daily from this fund is 175 at Bagewari, and about 40 at Manogoli. The discretionary allowance made by Government will afford relief to some, and private charity will relieve others.	The number of persons on hand at date of report for relief by works is about 3,200, including those employed by Public Works Department. None are receiving charitable relief from Government, but some may soon be expected. The number which Government is likely to have on its hands hereafter is roughly estimated by the Deputy Collector as follows:— On 1st March. For relief on works 4,500 " by charity 500 " On 1st May. For relief on works 6,000 " by charity 700 " On 1st July. For relief on works 4,000 " by charity 700 The Collector estimates the maximum number of labourers on hand in April and May at about 25 per cent. (22,922) of the entire population (91,688 souls), and the number in July will depend entirely on the time the monsoon sets in.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.						
BIJÁPUR Taluka (Supernumerary Assistant Collector)										
The yield of the kharif and the rabi crops, where sown, is only 1 anna each.	The Assistant Collector estimates the probable amount of remissions at about Rs. 1,01,500, or about three-fourths of the revenue, Rs. 1,34,000, which estimate the Collector thinks rather high, but no reliable information can be obtained till the jamábundi.	About 12,000 head of cattle, mostly old and useless, have died, out of a total of 60,000. About 30,000 have been driven out of the district for grazing purposes, and 30,000 or 40,000 remain, for which forage is not obtainable. The Assistant has no other suggestions to offer regarding measures to be taken for their preservation than those proposed by him with reference to the Sindgi Taluka, viz., that the best cattle be selected by Government officers, and conveyed to the gháts; and secondly, that Government undertake the preparation of, and feeding cattle on, prickly-pear or other suitable food. The prickly-pear experiment has already been tried in this district, and cattle will eat the leaves when prepared, but the owners do not care to undertake the trouble and incur the expense of preparing them on their own account.	The water-supply is fair, the source being wells and nullahs; and there is no apprehension of a scarcity.	Prices—Lbs. per Rupee.						
				For the Week ending						
				Jawari.	Bajri.	Wheat.	Dall.	Rice.	Gram.	
				1st October 1876	27½	—	26½	22½	15½	24½
				8th "	24½	—	22½	19½	15½	18½
				16th "	21	—	19	15	13½	13½
				23rd "	21	—	19	18½	15	18½
				30th "	17½	—	15	18½	15½	16½
				6th November 1876	17½	—	16	15	13½	16½
				13th "	13½	—	14	15	12½	13½
20th "	13½	—	15	15	13½	15½				
27th "	15½	15½	16½	17	13½	16½				
4th December 1876	16½	17½	18	17	13½	17½				
11th "	16½	17½	17	17	15	17½				
18th "	16½	17½	17	17	13½	17½				
Average of six years				55½	56	36	89½	22	43½	

MUDEBIHÁL Taluka (District Deputy Collector)

The kharif and rabi yield will each be less than one pie. There is no prospect of any further sowings this season.	Last year's revenue amounted to Rs. 1,57,875, and the probable remissions will be Rs. 39,468.	Out of 77,615 cattle, 7,000 have perished, and 13,000 have left the taluka; the rest are emaciated and weak, and only about 20 per cent. will be saved. Government have permitted free grazing in Kanara and other forest districts; but the distances from this taluka are great, and only the more valuable animals are sent.	The taluka is on the whole well off for water, but wells will be dug where required.	Prices—Lbs. per Rupee.					
				Jowari.	Bajri.	Wheat.	Grain.	Rice.	Toor Dal.
				Average price per rupee from 1st October to 25th December 1876 -					
				20	16	18	17½	13	16
				72	72	32	80	24	25
				Six years average -					
				The weekly statement of prices has not been given for this taluka.					

INDI Taluka (Supernumerary Assistant Collector)

The kharif yield will be nil, and the rabi 3 annas. There are no prospects of further sowings this season	The revenue is Rs. 1,95,742, out of which it is estimated that Rs. 1,45,742 must be remitted.	The total number of cattle is 89,000, out of which 15,847 have already died, and it is probable that 25,000 more will die. 40,000 have been taken to the Ghât districts. Prickly-pear fodder is not a success, but if Government would carry grass to Sholapur, it is thought that some of the Kaladgi ryots would buy it.	There is not much reason to dread a failure in the water supply.	Date.	Prices—Lbs. per Rupee						
					Rice.	Wheat.	Jowari.	Bjari.	Pulse.	Gram.	
				7th October 1876	-	14	28	30	30	20	24
				15th "	-	16	24	24	24	20	24
				23rd "	-	16	20	20	16	16	20
				31st "	-	16	22	22	20	18	20
				7th November 1876	-	16	16	18	14	16	18
				15th "	-	12	16	18	10	16	18
				23rd "	-	12	16	16	16	16	16
				30th "	-	12	16	16	16	16	16
				7th December 1876	-	12	16	16	16	16	16
				15th "	-	16	20	20	18	20	20
				23rd "	-	16	18	18	18	18	20
				31st "	-	14	18	18	18	18	18
				6th January 1877	-	14	16	16	16	18	16
				Average of six years	-	21½	38½	53½	56½	20	35

GENERAL

Of the eight talukas the crops in three seem to have been bad, and in five very bad.

The proposed remissions amount to Rs. 6,95,373. In one taluka the condition of the cattle appears tolerably satisfactory, and in seven bad.

In five talukas the prospects of the water-supply seem satisfactory, and in three indifferent. No calamity, due to failure of water, is anticipated by Government.

The local officers appear slightly apprehensive regarding the grain supply of five talukas.

The majority of the population of this, as of all other collectorates, is either agricultural, or very intimately connected with agriculture.

123,900, out of a population of 816,037 appear to have migrated. This movement seems now to have nearly stopped. It is to a great extent due to the necessity of obtaining pasture for the cattle.

The chief relief works are the Sholapur-Hubli and the Sholapur-Bellary roads.

continued.

f.	g.	h.	i.	j.	k.
Mr. H. Silcock's Report, dated 28th December 1876).					
The Assistant estimates the local stock of grain at about 1,683 tons, which, with the large importations from Sholapur by private enterprise, will probably suffice to meet the requirements of the taluka till next harvest. Owing to the large importations, prices have recently fallen.	The inhabitants of this taluka are of the ordinary class, there being but a few high caste, chiefly Brahmins, priests, &c. not well-to-do. The Lingayets are rather numerous and well-to-do. Of these, a few are merchants, the rest are ryots, who have been supplying grain to the poorer cultivators of their own villages. The majority of the inhabitants are ordinary ryots, who in general live very comfortably in their villages, but are obliged to labour this year. There are very few tradesmen and artisans. There are a few wealthy inamdars, but, being in debt, they will be unable to help their tenants.	According to the Mamlatdar's report, about 20,000, out of a population of 85,000, have already emigrated to the Nizam's dominions and the ghats, and appeared to have bettered themselves. A number of agricultural labourers have also left in search of work, but are now returning, preferring to work near their own villages. Further emigration to any great extent is not thought probable.	The works in progress are repairs to the Hubli-Sholapur and Bijapur-Bage-wari roads; filling in the moat round the Arkilla in Bijapur, and repairing the tanks at Torsal, Dasgal, and Kunmooenal. Work can be found in the moat for four or five months more if an increase is made to the estimate. The above works are sufficient to give employment for four or five months to the inhabitants of the taluka, but as numbers from other districts are flocking in, and are employed, the works will be finished sooner. The Assistant Collector proposes, as one of the most useful future relief works, the Bijapur Scheme, and station roads. Also repairing the Begum Talao, some hundred acres in extent, and once the principal source of the water supply of the city. He also proposes repairs to the large irrigation tanks at Mandepur, Koomatgi, and repairs to the Nagathan road.	A monthly subscription has been opened for the relief of the aged, infirm, and those unable to work. The amount not being large, will have to be supplemented by Government. Rs. 145 per mensem has been promised. There is a daily distribution of food to the poor. Travellers are very few, and no separate provision has been made for them.	The number of people on relief works is at present 7,000 men, supported by charity by Government; but grain is given for two or three days to those coming from a distance for employment, and without means of support. The probable number of relief works in future will be on 1st March - - 2,500; 1st May - - 2,500; 1st July - - 5,000.

Mr. Balkrishna Devrao's Report, dated 7th January 1877).

The present supply of grain is ample, and is drawn chiefly from Sholapur. Prices have fallen, and private enterprise will supply the market.	The population, amounting to 81,836, is purely agricultural, consisting of Hindoos, Muslims, Wadars, and Lowans, or wandering tribes. A few landholders have assisted their tenants.	7,500 people have emigrated to Kanara and the Nizam's territory, but are returning; there will probably be no further emigration, as those who have returned give unfavourable reports.	Six road works and two tanks are in progress, but as these will shortly be completed, they will have to be supplemented by four more tank works.	Private subscriptions relieve about 220 infirm people a day.	On works 1,825, and none by charity. It is impossible to say how many will be dependent on Government hereafter.
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Mr. H. Silcock's Report, dated 12th January 1877).

There are upwards of 135 tons of grain in store, and it is being imported from Sholapur. Private enterprise will supply the market, provided Government will supply fodder along the Sholapur-Hubli and Sholapur-Bellary roads, so far as they pass through this district.	The majority of the population of 105,000 are agriculturists, and fairly off. There are 200 or 300 artisans and a fair sprinkling of Brahmins and Mussalmans. There are a few Jagirdars from whom no aid can be expected.	Forty thousand have emigrated, some of whom have bettered themselves, while others are returning. No further emigration is expected.	The two road-works at present in progress are sufficient. On their completion, four road-works and four tanks will be undertaken, when the necessity arises.	Rs. 500 have been given for charitable aid. Travellers receive a day's food and the infirm one pound of grain a day.	13,058 persons are at present on relief works, and about 70 are receiving gratuitous support. The numbers of the former will swell to 15,000 or 20,000 on 1st March and 1st May, and fall to 8,000 on 1st July, if it rains seasonably. The number requiring charitable relief on the above dates, including children unable to work, will be 1,000 to 1,500.
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OBSERVATIONS.

The expenditure upon charity has been trifling.
The number of labourers anticipated to be upon the hands of Government is about—

On March 1st -	-	-	-	-	-	82,000
On May 1st -	-	-	-	-	-	1,19,500
On July 1st -	-	-	-	-	-	63,320

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports; the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

KANARESE DIVISION.—REVENUE

BELGAUM DISTRICT.

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.
1. Belgaum - - -	607	134,621	Rs. 1,48,611
2. Sampgaon - - -	409	131,504	2,39,918
3. Bidi - - -	632	78,875	1,19,770
4. Chikori - - -	848	248,685	2,64,841
5. Parasgad - - -	638	120,691	1,86,441
6. Gokák - - -	668	109,697	1,34,519
7. Athni - - -	789	114,677	1,59,817
Total - - -	4,591	938,750	12,53,917

BELGAUM - - - -

a.	b.	c.	d.	e.
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BIDI Taluka (First Assistant Collector Mr.

The kharif yield may be taken at 5 annas, and the rabi <i>nil</i> . There are no prospects of further sowings this season.	The probable remissions will be between Rs. 6,000 and 7,000; the total amount of revenue is not given.	No unusual mortality has occurred or is anticipated among the cattle of the taluka. About 5,000 cattle have been brought from other districts, out of which 20 have already died; and it is expected that the rough style of living will kill about 500 more of them.	The water-supply of the taluka need cause no apprehension.	Prices—Lbs. per Rupee.					
				For each Week in October, November, and December.					
					Jowári.	Rági.	Rice.	Tur dhal.	Wheat.
				7th October 1876 -	- 24	32	18	26	26
				15th " -	- 20	23	16	20	16
				23rd " -	- 18	24	16	20	16
				30th " -	- 16	22	16	16	14
				6th November 1876	- 12	16	13	12	12
				13th " -	- 14	18	16	12	14
				20th " -	- 16	20	16	12	16
				27th " -	- 16	18	16	12	16
				7th December 1876	- 16	20	15	12	14
				15th " -	- 16	20	15	12	16
				19th " -	- 16	20	16	12	16
				Average of six years -	39½	51½	28½	23	28½

BELGAUM Taluka (First Assistant Collector Mr.

The kharif yield will be 6 annas, and the rabi <i>nil</i> . There are no prospects of further sowings this season.	The Mámlatdár estimates the remissions at Rs. 7,000, and proposes to defer the collection of a like sum till another year. The Assistant Collector and the Revenue Commissioner think the amounts ought to be less.	No unusual mortality has taken place amongst the taluka cattle, but about 300 of those brought from other districts have perished. There will be sufficient fodder for all the cattle worth preserving.	There is a fair supply of drinking water in the taluka, and very slight remedial measures are considered necessary.	Prices—Lbs. per Rupee.					
				Dates.					
					Jowári.	Rice.	Báji.	Rági.	Tur dhal.
				7th October 1876 -	- 28	18	28	30	20
				15th " -	- 22	14	24	30	20
				22nd " -	- 18	14	22	26	18
				31st " -	- 18	13	18	22	14
				7th November 1876	- 14	12	12	14	12
				14th " -	- 16	14	16	18	16
				21st " -	- 18	14	16	22	14
				28th " -	- 18	14	18	20	14
				7th December 1876	- 18	14	18	20	14
				15th " -	- 20	14	18	20	14
				Average of six years -	36	24	38	33	22

COMMISSIONER—MR. A. E. D. GREY.

COLLECTOR—MR. T. BOSANQUET.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Rough Proportion of <i>Kharif</i> to <i>Rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	<i>Up to</i> 30th October 1876. Inches.
72,194	3,959	41·88	35·78
132,852	11,784	32·52	17·97
66,245	1,778	59·44	50·64
142,157	26,491	19·86	15·56
106,047	51,535	21·38	15·77
87,280	54,801	19·72	6·94
76,100	143,041	18·57	6·74
682,875	293,389	—	—

BELGAUM.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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Steward's Report, dated 27th December 1876).

here are 3,700,000 lbs. of grain in the taluka at present, and supplies are imported from Goa and from Bombay <i>via</i> Vingorla and Belgaum; there is no probability of the grain supplies brought by private enterprise failing.	The Shenvee Brahmins preponderate and are well off. These and the Lingayet Soucars at Nandgad form the wealthy portion of the population; the rest are poor. The richer cultivators may possibly aid their tenants.	Immigration, and not emigration, has taken place. Hard times may compel a few to go to Kanara and Goa for employment.	At present there is only one road-work in progress; this is insufficient, and others will have to be undertaken.	A relief-house has just been started at Khánapur, but the amount of charity dispensed is small.	The Mámáldar estimates the following numbers will require relief, but the Assistant Collector considers the numbers requiring relief by charity to be under-estimated. <table><tr><td></td><td><i>On</i></td><td><i>By</i></td></tr><tr><td></td><td><i>Works.</i></td><td><i>Charity.</i></td></tr><tr><td>On 1st Jan.</td><td>- 400</td><td>100</td></tr><tr><td>On 1st Mar.</td><td>- 1,300</td><td>100</td></tr><tr><td>On 1st May</td><td>- 1,300</td><td>100</td></tr><tr><td>On 1st July</td><td>- 800</td><td>100</td></tr></table>		<i>On</i>	<i>By</i>		<i>Works.</i>	<i>Charity.</i>	On 1st Jan.	- 400	100	On 1st Mar.	- 1,300	100	On 1st May	- 1,300	100	On 1st July	- 800	100
	<i>On</i>	<i>By</i>																					
	<i>Works.</i>	<i>Charity.</i>																					
On 1st Jan.	- 400	100																					
On 1st Mar.	- 1,300	100																					
On 1st May	- 1,300	100																					
On 1st July	- 800	100																					

Steward's Report, dated 26th December 1876).

The local stocks of grain are estimated at lbs. 10,165,380. There is no probability of the supply failing, as it is being largely imported from Bombay <i>via</i> the Coast. Private enterprise will continue to supply the market.	There is no marked preponderance of one caste over another; the total population is 129,292, one half of whom are engaged in agriculture; the rest are weavers and artisans. There are no landholders likely to assist their tenants.	There has been immigration, but no emigration.	At present labourers are employed on tank repairs and roads; other relief works will be started in January.	There is a relief-house at Belgaum, towards which Rs. 7,000 have been subscribed, and which has relieved 9,380 persons. When able-bodied men appear, they are given one cooked meal, and then sent to work on a neighbouring tank.	At present there are 1,000 people on the works; on 1st March there will be 3,000, on 1st May 5,000, and 1st July 5,000. The Assistant Collector considers the numbers over-estimated.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>a.</i>	<i>b.</i>	<i>c.</i>	<i>d.</i>	<i>e.</i>																																																																	
SAMPGAON Taluka (Supernumerary Assistant Collect																																																																					
The kharif crop may be taken at 8 annas, and the rabi at 8 annas. There are no prospects of further sowings this season.	The remissions will be slight.	No cattle have died of starvation, nor are any deaths anticipated from this cause.	The water-supply is not a matter of anxiety.	Prices—Lbs. per Rupee.																																																																	
				For each Week in October, November, and December 1876.																																																																	
				<table border="1"> <thead> <tr> <th></th><th>Jowari.</th><th>Rice.</th><th>Wheat.</th><th>Gram.</th></tr> </thead> <tbody> <tr> <td>1st week in October 1876 -</td><td>23</td><td>16</td><td>24</td><td>22</td></tr> <tr> <td>2nd " -</td><td>22</td><td>12</td><td>18</td><td>16</td></tr> <tr> <td>3rd " -</td><td>20</td><td>13</td><td>16</td><td>16</td></tr> <tr> <td>4th " -</td><td>20</td><td>13</td><td>16</td><td>16</td></tr> <tr> <td>1st week, November 1876 -</td><td>12</td><td>12</td><td>14</td><td>16</td></tr> <tr> <td>2nd " -</td><td>15</td><td>14</td><td>14</td><td>18</td></tr> <tr> <td>3rd " -</td><td>14</td><td>13</td><td>14</td><td>16</td></tr> <tr> <td>4th " -</td><td>16</td><td>14</td><td>14</td><td>18</td></tr> <tr> <td>1st week, December 1876 -</td><td>16</td><td>14</td><td>14</td><td>16</td></tr> <tr> <td>2nd " -</td><td>16</td><td>14</td><td>14</td><td>18</td></tr> <tr> <td>3rd " -</td><td>16</td><td>14</td><td>14</td><td>18</td></tr> <tr> <td>Average of six years -</td><td>48</td><td>32</td><td>36</td><td>40</td></tr> </tbody> </table>		Jowari.	Rice.	Wheat.	Gram.	1st week in October 1876 -	23	16	24	22	2nd " -	22	12	18	16	3rd " -	20	13	16	16	4th " -	20	13	16	16	1st week, November 1876 -	12	12	14	16	2nd " -	15	14	14	18	3rd " -	14	13	14	16	4th " -	16	14	14	18	1st week, December 1876 -	16	14	14	16	2nd " -	16	14	14	18	3rd " -	16	14	14	18	Average of six years -	48	32	36	40
	Jowari.	Rice.	Wheat.	Gram.																																																																	
1st week in October 1876 -	23	16	24	22																																																																	
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Average of six years -	48	32	36	40																																																																	

CHICKORI Taluka (Acting First Assistant Collector				Prices—Lbs. per Rupee.							
The Mamlatdar estimates the kharif crop at 1 anna, and the rabi at nearly 2½ annas; but the First Assistant considers this estimate unreliable, and calculates that the average throughout the Collectorate is about 5 annas, the crop being almost entirely kharif, and consisting largely of rice. There will be no further sowings this season.	The First Assistant estimates the remissions at Rs. 40,000, and suggests that the collection of the revenue to the extent of Rs. 30,000 more may be deferred till next year.	Of the cattle and agricultural stock, numbering 187,734, about 20,000 have been driven to the Ghâts to graze, and about 4,000 worthless animals have already perished, and 1,000 more are likely to die from hunger. There are considerable stocks of kurbi in the taluka, and the ghâts are near, so there should be little difficulty in feeding all animals worth preserving. The ryots will not go to the trouble and expense of preparing prickly-pear for fodder.	Chickori is a well-watered taluka; 90 of its villages being upon the banks of rivers, and no serious inconvenience is likely to be experienced as regards the rest.	Dates.							
				Jowâri.	Bajri.	Rice.	Wheat.	Tûr dhall.	Gram.	Nachni.	
				5th October 1876	22	24	18	20	22	18	23
				12th "	-	22	20	11	11	14	17
				19th "	-	16	16	13	16	16	17
				26th "	-	16	16	12	14	16	18
				2nd Nov. 1876	-	13	16	13	16	14	16
				9th "	-	15	16	13	14	14	16
				16th "	-	18	18	12	14	16	17
				23rd "	-	16	18	13	14	15	18
				30th "	-	16	18	13	14	15	18
				7th Dec. 1876	-	17	18	14	15	15	18
				14th "	-	19	18	14	16	15	18
				Average of 6 years	44	43	25	22	25	26½	53

PARASGAD Taluka (Superintendery Assistant Collector)												
The kharif yield will be $\frac{1}{2}$ and the rabi $\frac{1}{2}$ of an anna. There are no prospects of further sowings this season.	The total revenue is about Rs. 1,95,000; the remissions will amount to Rs. 65,000, and the outstanding collections to a like sum.	There is a large balance of fodder, and up to the present there has been no mortality amongst the cattle; but the people refuse to send their valuable cattle; to the distant Government grazing grounds, and will not use the prickly-pear. Probably, as the pressure increases, many animals will be sent to the ghâts.	The water-supply in many villages is indifferent, but the Assistant Collector does not anticipate such a failure as to cause serious inconvenience.	Prices—Lbs. per Rupee.								
				For the Weeks of October, November, and December 1876.	Jowari.	Rice.	Wheat.	Gram.	Dhall.	Mug.	Bajri.	Ragi.
1876.												
1st week, Oct.	24	16	22	20	16	16	26	20				
2nd "	18	12	18	16	12	14	18	16				
3rd "	17	14	18	18	12	14	18	16				
4th "	11 $\frac{1}{2}$	11	12	16	12	12	12	14				
1st week, Nov.	12	10 $\frac{1}{2}$	12	14	12	12	16	11				
2nd "	14	13	13	16	13	13	16	14				
3rd "	16	14	14	17 $\frac{1}{2}$	13	14	16	16				
4th "	15 $\frac{1}{2}$	14	16	18	14	14	16	16				
1st week, Dec.	16	14	16	17 $\frac{1}{2}$	14	14	16	16				
2nd "	17 $\frac{1}{2}$	14	16 $\frac{1}{2}$	18	14	16	18	16				
3rd "	20	13	18	20	15	16	20	18				
Average of six years - }	48	28	40	32	48	40	52	—				

GOKAK Taluka (District Deputy Collector											
The kharif yield will be 9 and the rabi 4 pias. There are no prospects of further sowings this season.	The probable remissions will amount to Rs. 72,273. The total revenue is not given.	Out of the total number of cattle, amounting to 86,466, 1,955 have died, 8,272 have been sold, and 3,474 sent to the ghâts. Of the rest 15,000 may perish. Attempts are being made to introduce prickly-pea as fodder.	Although this part of the district is watered by the River Ghatprabha, which will supply a number of villages, there will be a certain amount of inconvenience as regards water-supply in many villages distant from the Ghatprabha, as nullahs and wells are fast drying up. Wells and tanks are being deepened and cleared out on a large scale.	Dates.	Prices—Lbs. per Rupee.						
					Jowari.	Bajri.	Rice.	Wheat.	Tur.	Gram.	
				5th October 1876	-	16½	24	18	76	16	17
				12th "	-	18	20	12	15½	13	17
				19th "	-	18	20	12	18	13	18
				26th "	-	16½	18	12	18	14	18
				2nd November 1876	-	10½	11	12	11	18	16
				9th "	-	13	14	10	12	14	16
				16th "	-	13	17	10	15	12	18
				23rd "	-	14	16	12	14	14	16
				30th "	-	14	14	11	15	13	16
				7th December 1876	-	15	16	12	15	12	18
				14th "	-	16	20	12	16	12	18
				21st "	-	19	20	14	15	11	17
				25th "	-	18	-	15	18	-	20
				Average of six years	-	45	47	23	25	25	25

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>								
G. McCorkell's Report, dated 29th December 1876).													
There is a vast quantity of grain in store, and large importations continue from Vingorla and Belam; but the Assistant Collector thinks prices will not fall. Private enterprise will supply the market.	The population is almost purely agricultural; by far the larger number are Lingayets by caste. There are no landholders willing to aid their tenants.	Not more than 1,300 have emigrated, but many more will follow unless relief works are started at once.	No relief works, except one road, are in progress at present, but three road works can be commenced when necessary.	A relief-house has been opened, but up to the present no large demands for charity have been made.	At present there are no people on relief works, but the Assistant Collector expects that support will have to be provided for about— <table><tr><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>On 1st Mar. - 9,000</td><td>3,000</td></tr><tr><td>On 1st May - 9,750</td><td>3,250</td></tr><tr><td>On 1st July - 6,000</td><td>2,000</td></tr></table>	<i>On Works.</i>	<i>By Charity.</i>	On 1st Mar. - 9,000	3,000	On 1st May - 9,750	3,250	On 1st July - 6,000	2,000
<i>On Works.</i>	<i>By Charity.</i>												
On 1st Mar. - 9,000	3,000												
On 1st May - 9,750	3,250												
On 1st July - 6,000	2,000												

A. Steward's Report, dated 4th January 1877).

present supply of grain, added to the vast quantities imported from Vingorla, Chiplun, and other places, is sufficient to last till the monsoon. Prices have fallen, and private enterprise will supply the market.	There is no marked preponderance of any one caste over another. Weaving is the only trade carried on; the cultivators are exceedingly well-to-do, and the population is almost entirely agricultural, though the coolie class is a large one.	About 2,000 people have emigrated towards the Kanara jungles and relief works, and are supposed to have bettered themselves.	At present the eight road works in progress are sufficient; hereafter some large irrigational project in Hukeri Mahál may require to be undertaken.	Relief houses, under Government supervision, are established at four villages, where the wants of travellers and incapables are administered to.	There are at present 5,000 people on the works and 250 in the poor-houses; the numbers of the former will rise to about 14,000 or 15,000 throughout the dry season, and the latter to about 1,000.
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G. McCorkell's Report, dated 30th December 1876).

There are upwards of 3,202 tons of grain in store; importations are large, and there is no probability of the supply failing. Prices have fallen since the large importations, but will rise as soon as the rains close in Southern Mahratta ports. Private enterprise will supply the market.	The prevailing caste is that of the Lingayets; the majority of the population is agricultural, and in poor circumstances. There are no landholders capable of assisting their tenants.	About 5,000 people migrated with their cattle, but are returning. No further migration has taken place. There are a large number of immigrants from Dharwar, Kaladgi, and the neighbouring Jaghir States.	The greater number of the 13 relief works undertaken are completed. In addition to these the Assistant Collector proposes 14 tank-works and two roads.	A relief house has been established where the wants of incapables are attended to.	At present there are 8,200 on the works; it is expected that there will be :— <table><tr><th></th><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>On 1st March</td><td>22,350</td><td>1,500</td></tr><tr><td>" 1st May</td><td>- 16,670</td><td>1,750</td></tr><tr><td>" 1st July</td><td>- 12,000</td><td>2,000</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	On 1st March	22,350	1,500	" 1st May	- 16,670	1,750	" 1st July	- 12,000	2,000
	<i>On Works.</i>	<i>By Charity.</i>															
On 1st March	22,350	1,500															
" 1st May	- 16,670	1,750															
" 1st July	- 12,000	2,000															

Jr. J. A. Guerin's Report, dated 10th January 1877).

There are upwards of 571 tons of grain in stores. Further supplies are being drawn from Vingorla, Chickori, Bidi, and Sampgaon talukas. So long as importations from Vingorla continue, private enterprise will supply the market.	The population amounts to 109,697, and is almost entirely of Hindus, 40,063 being high caste and 60,060 low caste. There is a small per-centage of Jains and Musalmans; about 27,424 purely and 3,428 partly agricultural; and the rest are urban, artizan, &c. The people, as a rule, are poor, and there are no landholders able to assist their tenants.	About 4,600 people have emigrated towards Mysore and the western gháts; some have returned, and others have found employment. No further emigration is expected.	Eleven tank works, one well, and one road are at present in progress, but will not meet the demand for labour; and it is proposed to commence the Gokak Canal.	A relief house has been established at Gokak, and the infirm and children are fed daily; the sick are supplied with medicines; and able-bodied travellers are assisted to relief works, partly by Government and partly by private charity.	7,759 persons are now on the works, and 57 are being supported by charity; the number will probably increase to :— <table><tr><td></td><td><i>On Works.</i></td><td><i>By Charity.</i></td></tr><tr><td>On 1st March</td><td>20,000</td><td>400</td></tr><tr><td>" 1st May -</td><td>27,000</td><td>700</td></tr><tr><td>" 1st July -</td><td>22,000</td><td>900</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	On 1st March	20,000	400	" 1st May -	27,000	700	" 1st July -	22,000	900
	<i>On Works.</i>	<i>By Charity.</i>															
On 1st March	20,000	400															
" 1st May -	27,000	700															
" 1st July -	22,000	900															

Statistics relating to distressed districts in Bombay Presidency.

a.	b.	c.	d.	e.
ATHNI Taluka (District Deputy Collector)				
The kharif yield may be taken at 4 pies and the rabi 1½ pies. No further sowings are expected this season.	The probable remissions will amount to Rs. 60,499; the total revenue is not given.	4,300 cattle are reported to have died and 5,000 to have been sold. A further mortality of 16,000 is anticipated.	27 villages of this district derive their water-supply from the Kistna river, which contains sufficient for the season; the other 77 villages, being dependent on wells and nalas, most of which are already dry, will suffer from scarcity. Wells are being deepened and cleared.	Prices-Lbs.perRun
				Dates. Jowari. Rajri. Rice. Wheat.
				2nd October 1876 - - 18 18 10 14
				16th " - - 16 16 11 14
				23rd " - - 15 16 12 13
				30th " - - 14½ 16 12 13
				6th November 1876 - - 15 16 11 15
				13th " - - 14 15 - 14
				20th " - - 14 15 - 14
				27th " - - 16 16 11 14
				4th December 1876 - - 16 17 12 14
				11th " - - 18 20 13 13½
				18th " - - 18 20 13 13
				22nd " - - 17 - 13 16
				25th " - - 18 - 12 16
				Average of six years - 51½ 20½ 24 27½

GENERAL

Of the seven talukas, the crop in four seem fair, and in three bad.
The proposed remissions amount to Rs. 2,50,772.
In five talukas the condition of the cattle appears satisfactory, and in two bad.
In five talukas the prospects of the water supply seem satisfactory, and in two indifferent. No calamity due to failure of water is anticipated by Government.
No apprehensions are entertained regarding the grain supply.
The majority of the population of this as of all other collectorates is either purely agricultural or very intimately connected with agriculture; 22,900, out of a population of 938,750, appear to have migrated. This movement appears now to have nearly stopped. It is, to a great extent, due to the necessity of obtaining pasture for the cattle.
The chief relief works are roads.

29th January 1877.

continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

<i>f.</i>	<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>
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J. A. Guerin's Report, dated 10th January 1877).

are upwards of 77 tons of grain in re. Supplies are obtained from Sholapur, Jun, and in small quantities from Nipani and Belgaum. Prices have fallen, and private enterprise will supply the market.	The total population of Athni is 114,677, of whom 74,374 are high caste Hindus, and 16,487 low caste, 12,705 Jains, and 11,109 Musalmans. About 21,502 are purely agricultural and 78,840 combine agriculture with other trades; the remaining 14,335 are non-agricultural. The people, as a rule, are poor, and there are no large landholders capable of aiding their tenants.	About 10,000 people emigrated to the Nizam's territory and the Konkan, and a few to Amraoti, but many have returned.	Nine tank works and three roads are in progress at present, but are found insufficient. In the absence of Government sanction to the Gokak Canal, several smaller works must be undertaken.	A relief house has been established at Athni, and the infirm and children are fed daily with cooked food; the sick are supplied with medicines; and able-bodied travellers are assisted to relief works by Government and private charity.	At present there are 6,981 on works and 140 are supported by charity. The numbers will be:— <table><tr><th></th><th><i>On Works.</i></th><th><i>By Charity.</i></th></tr><tr><td>On 1st March</td><td>18,000</td><td>300</td></tr><tr><td>" 1st May</td><td>25,000</td><td>604</td></tr><tr><td>" 1st July</td><td>20,000</td><td>800</td></tr></table>		<i>On Works.</i>	<i>By Charity.</i>	On 1st March	18,000	300	" 1st May	25,000	604	" 1st July	20,000	800
	<i>On Works.</i>	<i>By Charity.</i>															
On 1st March	18,000	300															
" 1st May	25,000	604															
" 1st July	20,000	800															

OBSERVATIONS.

The expenditure upon charity has been trifling.

The number of labourers anticipated to be upon the hands of Government is about—

On March 1st	-	-	-	-	-	-	87,650
On May 1st	-	-	-	-	-	-	98,720
On July 1st	-	-	-	-	-	-	79,800

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports, the time allowed for their preparation having been so short, considering the delicacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

Statistics relating to distressed districts in Bombay Presidency.

KANARESE DIVISION.—REVENUE
DHARWAR DISTRICT.

TALUKAS.	Area in Square Miles.	Population.	Government realisable Revenue in 1875-76.
			Rs.
1. Dharwar - - -	460	123,730	2,12,351
2. Hubli - - -	310	101,238	2,19,355
3. Nawalgund - - -	565	104,700	3,54,333
4. Gadag - - -	701	120,655	2,55,267
5. Bankapur - - -	341	83,175	1,49,052
6. Hāngal - - -	298	67,390	1,42,783
7. Karajgi - - -	439	95,217	1,49,830
8. Rānibennur - - -	403	86,601	1,33,472
9. Kod - - -	399	79,099	1,53,384
10. Kalghatgi - - -	279	52,729	1,01,844
11. Ron - - -	369	73,503	1,61,620
Total - - -	4,564	988,037	20,33,291

DHARWAR

a.	b.	c.	d.	e.
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HUBLI Taluka (1st Assistant Collector Mr.

The yield of the kharif and the rabi crop where sown is about 4 annas each, but nearly half the culturable area has been unsown. There will be no further sowings this season.	The total land revenue of the taluka is Rs. 2,25,000, and the remission to be given is estimated by the Māmlatdār at Rs. 25,000, which the First Assistant considers somewhat high, as the people are well-to-do.	No unusual mortality has occurred among the cattle, nor is any anticipated. Fodder plentiful. No special measures are required on this account.	The water supply is fair, the chief source being wells. No scarcity of water is apprehended.	For each Week of October, November, and December 1876.	Prices—Lbs. per Bup.					
					Jowāri.	Rice.	Tūr, dhall.	Wheat.	Gram.	
					1st week in October -	32	16	22	26	24
					2nd " -	26	16	18	20	22
					3rd " -	21	16	16	20	22
					4th " -	16	13	16	14	20
					1st week in November	14	14	14	16	20
					2nd " -	16	14	14	16	18
					3rd " -	16	16	15	16	18
					4th " -	16	14	14	16	18
					1st week in December	16	14	14	16	18
					2nd " -	16	14	14	16	18
					Up to 22nd December	20	16	14	18	20
					Average of six years -	52	28	20	30	24

GADAG Taluka (1st Assistant Collector Mr.

The yield of the kharif crop is estimated at 3 annas, and that of the rabi at 1 anna, but only a third of the culturable area has been sown. There will be no further sowings this season.	The Mamlatdar estimates the remissions at about Rs. 36,000, out of the total assessment of Rs. 2,46,522. The First Assistant Collector, however, thinks this estimate too low, and puts the amount at about Rs. 60,000.	No cattle have died from starvation, but some have been sent for grazing to the jungles. There are considerable stocks of fodder, and the people will be able to keep alive the best of their cattle, but difficulty, in procuring fodder will be felt by the owners of carts coming into the taluka with grain supplies, &c.	In some villages there is already a great scarcity of water, and in seven others there is no supply at all, the villagers having to go two or three miles for it; these are black soil villages, and depend for their supply upon tanks, which are filled up by the rain. The only remedial measure that appears feasible to the First Assistant is the sinking of wells to a great depth (100 feet) where good water may be found, that found at a moderate depth being brackish.	For each Week of October, November, and December 1876.	Prices—Lbs. per Rupee					
					Jowari.	Rice.	Tur Dall.	Wheat.	Gram.	
					1st week in October -	32	20	32	20	32
					2nd " " -	22	14	20	20	20
					3rd " " -	22	16	20	20	20
					4th " " -	13	12	16	14	16
					1st week in November	13	12	14	14	14
					2nd " " -	15	13	16	16	16
					3rd " " -	14	12	16	16	16
					4th " " -	14	12	15	15	16
					1st week in December	14	14	15	15	16
					2nd " " -	18	14	16	16	18
					3rd " " -	19	15	16	16	18
					Up to 26th December	19	15	16	16	18
					Average of six years -	51	22	24	28	23

Statistics
relating to
distressed
districts in
Bombay
Presidency.

COMMISSIONER—MR. A. E. D. GREY.

COLLECTOR, MR. F. B. RICHEY.

Rough Proportion of <i>Kharif</i> to <i>Rabi</i> Cultivation.		Average Annual Rainfall.	Actual Rainfall this Season.
<i>Kharif</i> . Acres.	<i>Rabi</i> . Acres.	Inches.	Inches.
75,056	80,453	32·34	20·71
41,562	74,669	27·83	14·18
3,542	226,080	22·22	6·65
74,584	170,794	25·67	11·1
61,985	19,274	21·83	15·23
55,809	5,480	34·83	22·39
81,268	32,434	25·23	13·33
82,820	27,281	22·53	10·9
92,188	4,738	21·26	15·46
50,750	730	33·09	20·23
17,424	140,296	23·48	4·70
636,988	732,229	—	—

DHARWAR.

f.	g.	h.	i.	j.	k.
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Vaddington's Report, dated 30th December 1876).

The Mámlatdár estimates the local stock of grain at about 694 tons, which the First Assistant considers absurdly low. He believes there are large stocks in the taluka. There are many rich traders in the town of Hubli, who are importing largely, as also are Messrs. Nicol and Co., of the Karwar Company (Limited), and the effect of this importation is a considerable fall in prices. If it continue, there is no need of apprehension for the taluka.	Of the total population (101,238) of the taluka, 17,170 persons are purely agricultural, 24,410 are artisans, and 59,658 of no special employment. Out of the whole number, about 500 persons are computed to be of independent means, but of these those of the land-holding class are heavily involved, and there is no probability of their assisting their tenants.	No emigration has taken place from this taluka, but about 2,500 have immigrated from Kaladgi and elsewhere, who now find employment on the road under construction between Hubli and Konur.	The only relief work now in progress here is the road from Hubli and Konur, upon which about 3,000 persons are employed. There are also minor local fund works sanctioned, which will afford relief. A list is appended of works which can, if necessary, be sanctioned for relief.	No charitable relief has been given as yet, and it is doubted if any such will be required in the town of Hubli itself, where many of the wealthy merchants already distribute food daily to large numbers, and will continue to do so during the scarcity. In the villages also little will be required, as Hubli is the grand centre to which all needing employment or charity naturally gravitate.	The number of persons employed on relief works is at present about 3,000, most of whom are immigrants. The Mámlatdár estimates the probable numbers in future as follows:— On 1st March - 5,000 " 1st May - 5,000 " 1st July - 5,000 supposing no rain to have fallen. The First Assistant considers this estimate to be a fair one.
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Vaddington's Report, dated 30th December 1876).

The Mámlatdár estimates the local stock of grain at about 826 tons, which the First Assistant considers unreliable, but states he is himself unable to supply a more reliable estimate. Grain is largely imported from Bellary, Coompta, and Karwar, and the stock is sufficient for the wants of the usual inhabitants of the taluka, though, in the absence of importation, prices would be high. Importation, too, is requisite, not only to keep down prices, but to provide grain for the people employed on relief works, the majority of whom are immigrants from other districts. Later in the season difficulty will be experienced in procuring fodder for cart bullocks bringing grain into the district. The Revenue Commissioner, therefore, suggests the desirableness of storing, as a precautionary measure, a certain amount of fodder for sale to the public on the main lines of communication.	Of the total population, numbering 120,655 souls, 24,141 are purely agricultural, 1,026 artisans, and 95,488 of no special employment. The people are on the whole well-to-do. There are no large or wealthy landholders who are in a position to assist their tenants.	According to the Mámlatdár's report about 10,000 people emigrated to the forests, but in consequence of suffering from fever and want of employment, many are returning to their homes. The First Assistant Collector observes that annually considerable numbers of the poorer classes emigrate to the western talukas for employment in reaping the rice crops, and return after harvest, and thinks that these persons form a considerable portion of the number in the Mámlatdár's estimate. Further emigration is not considered probable, if employment on relief works can be found in the taluka.	The relief works in progress are improving the tank at Dambul and making a road between Hurtee and Mulagund, 1,250 persons being employed on the former and 1,500 on the latter work. A list of other relief works which can be undertaken is also submitted.	The amount of charitable relief has as yet been very small, nor is there any likelihood of its rising to anything very considerable.	At present only about 4,000 persons are employed on relief works. It is difficult to make a forecast of the numbers likely to be so employed in future, as it must entirely depend upon the seasonableness or otherwise of the rainfall. The Mámlatdár estimates the number that will require charitable relief at— On 1st March - 60 per diem. " 1st May - 80 " " 1st July - 100 "
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.
KALGHATGI Taluka (First Assistant Collector)				
The taluka is entirely kharif, and the crop is 5 annas.	About Rs. 500 - -	No unusual mortality among cattle, and fodder is abundant. A considerable number of cattle, belonging to immigrants from Kaldgi and elsewhere, have died on their way through this taluka to the forests. Many of them were poor, worthless creatures; their deaths are partly attributable to the scarcity of food and over-driving, and partly to the coarse fodder of this taluka not suiting them.	The water supply is fair, the source being nullahs and holes sunk in the beds of nullahs. Where the want of water is likely to be most felt will be along the road, by cartmen travelling with grain carts from Sangatikop to Hubli. Suggests the sinking of temporary wells at each of the halting places along the line.	Prices—Lbs. per Rupee.
				For each Week in October, November, and December 1873.
				Jowari. Rice. Tur Dhall. Wheat. Gram. Peas.
				1st week in October - 36 24 28 32 20
				2nd " - 24 18 20 16 20
				3rd " - 26 18 18 18 20
				4th " - 20 18 20 18 20
				5th " - 12 12 16 12 12
				1st week in November - 20 20 16 16 16
				2nd " - 16 16 16 14 16
				3rd " - 16 16 16 14 16
				4th " - 16 16 16 14 16
				1st week in December - 18 15 14 14 16
				2nd " - 17 15 14 14 16
				3rd " - 18 16 14 14 20
				Up to 22nd December - 20 18 16 16 20
				Average of six years - 46 26 18 20 18

HANGAL Taluka (Acting Second Assistant Collector)				
The kharif crop is as follows: ragi, 5 annas; rice, 4 annas; jowari, 3½ annas; and tur pulse, 1 anna. There has been no rabi crop at all. There will be no further sowings this season.	Rs. 1,000 will probably have to be remitted.	No unusual mortality has occurred or is anticipated. Fodder sufficient.	From February and March the water supply will fail in some villages, but no special distress from scarcity of water will be felt, as the ryots will, as usual, sink temporary wells in nullahs, tanks, &c.	Prices—Lbs. per Rupee.
				For the Week ending
				Ragi. Jowari. Tur Pulse. Wheat. Rice. Gram.
				1st October 1876 - 48 32 28 28 24 16
				8th " - 32 24 20 16 20 20
				15th " - 32 24 22 16 20 16
				22nd " - 32 22 20 16 20 16
				1st November 1876 - 14 14 16 16 14 16
				8th " - 24 20 16 10 16 14
				15th " - 32 20 16 10 16 16
				22nd " - 24 18 14 12 16 16
				1st December 1876 - 24 20 16 11 16 16
				8th " - 24 20 16 12 16 16
				15th " - 32 22 16 12 20 16
				Average of six years - 104 69½ 29½ 26 34 24

RANIBENNUR Taluka (Acting Second Assistant Collector)				
The Assistant Collector estimates the kharif crop at 1½, and the rabi at 6¼ annas. The Collector thinks the Assistant's estimate of the kharif crop is slightly too low. There will be no further sowings this season.	About Rs. 10,000 will probably have to be remitted out of a revenue demand of Rs. 1,33,734.	3,000 cattle have died, of which one half were valuable agricultural stock. About 33,500 valuable animals have been sent to Mysore and Kanara to graze; of these about 4,200 have died. It is anticipated that about 1,000 more will die, of which only 300 will be valuable animals. The Second Assistant has no other suggestions to offer for the preservation of cattle than those made with reference to Sindgi Taluka.	The tanks of 10 villages are dry, and those of 15 villages will also be dry in a fortnight, when, with the exception of three villages, the inhabitants of which will have to go three miles, all villagers will have to go from one to two miles for water.	Prices—Lbs. per Rupee.
				Date.
				Jowari. Tur Pulse. Wheat. Rice. Gram.
				1876.
				1st to 14th October - 32 24 24 24 24
				15th October - 24 22 24 24 22
				22nd " - 22 18 16 18 20
				1st November - 20 16 14 14 18
				8th to 21st November - 18 16 14 14 18
				22nd November to 7th December - 18 14 12 14 16
				8th December - 17 12 12 14 14
				15th " - 14 12 14 14 14
				22nd " - 20 16 14 16 14
				28th " - 21 16 16 16 16
				Average of six years - 68½ 29½ 31 28½ 24½

KARAJGI Taluka (Supernumerary Assistant Collector Mr. E.)				
The kharif crop is about 1 anna, and the rabi ½ an anna.	Remissions will probably amount to nearly Rs. 30,000 out of a revenue of Rs. 1,50,504, but no accurate estimate can be formed till the jamabandi.	No unusual mortality as yet among the cattle in the taluka, but it is anticipated. Of the cattle that have been sent to Malad to graze, about 1,000 have died from the effects of the climate, and some are returning thence. The Collector thinks the effect of the Malad climate exaggerated, and that the animals were weak when they arrived there. He considers that Government cannot do more for the cattle than is being done.	The rivers Warad and Tungabhadra run through the taluka, the former almost through the centre, and the latter bounds the greater part of the eastern side. But in villages where water is deficient measures are being taken to improve the supply.	Prices—Lbs. per Rupee.
				WEEKS.
				Jowari. Togari. Rice. Wheat. Gram.
				1st week in October - 22 16 16 16 16
				2nd " - 20 16 16 16 16
				3rd " - 20 16 16 16 16
				4th " - 20 16 16 16 16
				1st week in November - 18 12 12 12 14
				2nd " - 18 12 12 12 14
				3rd " - 18 12 12 12 14
				4th " - 18 12 12 12 14
				1st week in December - 18 12 12 12 14
				2nd " - 18 12 12 12 14
				3rd " - 18 12 12 12 14
				4th " - 20 14 16 12 14
				Average of six years - 68½ 24½ 32½ 28½ 22½

-continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

f.	g.	h.	i.	j.	k.
Mr. G. Waddington's Report, dated 30th December 1876).					
The local stock of grain is estimated at 3,117 tons, but the First Assistant does not consider this estimate very reliable. Large imports are being made from Karwar, and Messrs. Nicol and Co. have set up a grain store at Kalghatgi. Private enterprise is likely to provide the requisite supply, and prices, which have already fallen, are not likely to rise excessively.	About 10,000 persons, out of a total population of 52,720, are purely agricultural, the remainder are composed of labourers, traders, and artisans and manufacturers. There are no very wealthy persons or large landholders in the taluka, the few that may be considered as such being involved in debt, and there is no probability of their assisting their tenants, though a few are taking advantage of the cheap labour obtainable to improve their lands.	No emigration has taken, or is likely to take place, in this taluka; but about 5,000 persons have immigrated into it from Kaladgi and elsewhere, and the number is daily increasing.	No relief work has yet been started, nor is any at present needed, as there has been no demand for employment, except to a very limited extent. A list of works that may hereafter be necessary is submitted.	No expenditure has as yet been incurred on charitable relief, but hereafter it may be found necessary to grant such relief to immigrants returning home in April or May, after the first showers.	The number of persons now employed on relief works is only 260. The Mamlat-dar estimates on the— 1st March - 2,000 1st May - 1,000 1st July - 1,000 This must depend entirely on the rainfall being early and plentiful or otherwise.

Mr. C. Wiltshire's Report, dated 23rd December 1876).

The Second Assistant Collector estimates the local stocks of grain at 11,826 tons, but the Collector does not consider much weight is to be attached to this estimate. As Hāngal is favourably situated as regards the ports of Karwar and Coompta, private enterprise is likely to meet all requirements.	Of the population numbering 67,300 souls, 23,422 are of high, and 35,083 of low caste; 332 men are rich, and of the remainder half are well-to-do and half are poor. There are 36,974 agriculturists, 5,551 artisans, and 500 professional mendicants. Of the balance, one half are petty shop-keepers, and the other labourers or private servants. There are six wealthy landholders, who are able and willing to aid their tenants. Of these, two at their own expense employ each from 400 to 500 immigrant labourers on works.	There has been and will be no emigration, but 1,000 beggars and 3,000 coolies have immigrated, who are now gradually returning to their homes.	The local fund works are very small. The sum of Rs. 4,331 for small works has been raised by local subscriptions, and will be expended in deepening 3 kalwas and 12 tanks. The Collector does not anticipate much demand for relief employment from the population of Hāngal itself, but there is a prospect of considerable immigration. At present there is sufficient work for the immigrants. Should the necessity for extensive relief arise, tank digging is, in the opinion of the Collector, the proper object for expenditure.	No charitable relief has been given. The Second Assistant has on hand a reserve of Rs. 1,000 to be so spent.	The Second Assistant cannot give accurate information as to the number of persons on relief works. The number is likely to be on the— 1st March - 4,000 1st May - 5,000 1st July - 3,000 On each of these dates 50 persons unable to work will have to be supported by charity.
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Mr. C. Wiltshire's Report, dated 29th December 1876).

The local stocks of grain, as far as ascertainable, are not less than 595 tons. A large quantity is also imported from Coompta and Mysore. In the opinion of both the Second Assistant and the Collector, private enterprise is likely to be sufficient to meet all demands, but the importations will not be sufficiently large to lower prices to any great extent.	Of the population 67,730 are high and 15,673 are low caste; 1,077 are rich, 21,312 are well-to-do, and the remainder poor. Of the population, 29,200 are agriculturists, 38,720 artisans, 1,903 merchants, 8,800 dealers in cattle, 600 carriers of goods, 3,300 are Government and other servants, 880 are priests, and 3,700 compose the moneyed gentry. There are no large wealthy landholders able to aid their tenants.	There has been no emigration except an exodus of 300 persons, who have taken their cattle to Mysore and Kanara, and who are not likely to return till the scarcity is over. No further emigration is anticipated.	The metalling of the Poonah-Hurryhur Road is in progress; also the Medleri Tank, the former employing 334, and the latter 150 labourers. The ryots have subscribed Rs. 6,440 for famine works. With this sum a well, hound, and dharmasala will be built, and several hounds, tanks, and wells will be repaired. A list is submitted of other works, chiefly roads, which are suitable relief works.	No charitable relief has as yet been given.	Government have on their hands about 484 labourers. The number likely to require relief hereafter is, on the 1st March 4,000 on works and 100 by charity; 1st May, 4,000 on works and 200 by charity; and on 1st July, 3,000 on works and 200 by charity.
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McCallum's Report, dated 30th December 1876).

The Assistant Collector estimates the local stock at about 8,759 tons, but the Collector cannot place any reliance on the estimate. The centres from which further supplies can be drawn are Bellary, distant 14 miles; Coompta, distant 100; and Karwar, distant 112 miles. A good deal of grain is being imported by private enterprise; there has already been a fall in prices and a further decline is probable. No dearth of food is anticipated.	Of the population about 25,000 are well-to-do, the remainder 64,262 are poor. The cultivators number about 23,574, and the artisans 20,384. There are no large landholders likely to help their tenants.	About 3,000 people have emigrated and have bettered themselves by so doing, but owing to sickness some have returned. Further emigration is not anticipated.	Relief works, such as clearing tanks and cutting prickly-pear are being carried on out of voluntary subscription at seven different places. Relief works are also in progress under the Public Works Department, such as clearing out the Gutal hound and metalling the Harrihar Road, and making a new line of road near Tahihulli. A road from Gutal to Ranibenur is also in progress. Other relief work recommended is enlarging a tank between the villages of Timapur, Hattimatur, and Neigalur.	Infirm people, unable to work, are at present supported by voluntary subscriptions, 2 lbs. of jowāri per day being given to them. In Haveri and Devihosur there are one or two sowcars who give relief gratuitously.	The number of people whom Government had on their hands on the 23rd December for relief by works was 2,000, and by charity 500. Government will probably have on their hands for relief on the— 1st March - 5,000 1st May - 3,000 1st July - 1,500 The Collector supposes that the average number between 1st of March and 1st of June will be 5,000; and that if rain be seasonable an deopious, little or no relief will be required in July.
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Statistics
relating to
distressed
districts in
Bombay
Presidency.

a.	b.	c.	d.	e.																																																																																																								
RON Taluka (District Deputy Collector Mr. J. C. Anding)																																																																																																												
The kharif crop was $\frac{1}{2}$ anna; rabi crop nil. There will be no further sowings this season.	The District Deputy estimates the amount of remissions at about one third (Rs. 54,000) of the total assessment, Rs. 1,62,679. The Collector thinks it may be brought below this.	About 7,000 cattle and agricultural stock have died from want of fodder, and about as many more deaths are anticipated. Permission to graze cattle in the forests has eagerly been taken advantage of. Some who could afford it have laid in a stock of fodder sufficient to last for two months or more. The attention of the people has been drawn to the advantage of utilising the leaves of the prickly-pear as fodder.	Of the 58 villages, 53 have a supply of water sufficient till next rains, the remaining five have tanks, which are now dry; but temporary wells have been sunk in the beds of nalas, one or two miles distant, to supply their need; these wells will have to be made deeper as the dry season advances.	<table><tr><th rowspan="2">For the Week ending</th><th colspan="6">Prices—Lbs. per Rupee.</th></tr><tr><th>Jowári.</th><th>Túr pulse.</th><th>Rice.</th><th>Wheat.</th><th>Gram.</th><th>Bajri.</th></tr><tr><td>5th October -</td><td>36</td><td>20</td><td>22</td><td>28</td><td>20</td><td>36</td></tr><tr><td>12th " -</td><td>22</td><td>18</td><td>18</td><td>20</td><td>20</td><td>—</td></tr><tr><td>19th " -</td><td>20</td><td>18</td><td>16</td><td>20</td><td>16</td><td>20</td></tr><tr><td>26th " -</td><td>20</td><td>18</td><td>16</td><td>20</td><td>—</td><td>20</td></tr><tr><td>2nd November</td><td>14</td><td>13</td><td>12</td><td>12</td><td>13</td><td>14</td></tr><tr><td>9th " -</td><td>17</td><td>14</td><td>13</td><td>12</td><td>14</td><td>16</td></tr><tr><td>16th " -</td><td>14</td><td>13</td><td>13</td><td>16</td><td>14</td><td>14</td></tr><tr><td>23rd " -</td><td>16</td><td>14</td><td>14</td><td>14</td><td>14</td><td>14</td></tr><tr><td>30th " -</td><td>16</td><td>14</td><td>14</td><td>14</td><td>18</td><td>11</td></tr><tr><td>7th December</td><td>16</td><td>14</td><td>14</td><td>14</td><td>18</td><td>16</td></tr><tr><td>14th " -</td><td>18</td><td>14</td><td>16</td><td>14</td><td>18</td><td>16</td></tr><tr><td>21st " -</td><td>22</td><td>16</td><td>16</td><td>16</td><td>20</td><td>—</td></tr><tr><td>Average of six years -</td><td>76</td><td>22</td><td>27</td><td>28</td><td>22½</td><td>61</td></tr></table>	For the Week ending	Prices—Lbs. per Rupee.						Jowári.	Túr pulse.	Rice.	Wheat.	Gram.	Bajri.	5th October -	36	20	22	28	20	36	12th " -	22	18	18	20	20	—	19th " -	20	18	16	20	16	20	26th " -	20	18	16	20	—	20	2nd November	14	13	12	12	13	14	9th " -	17	14	13	12	14	16	16th " -	14	13	13	16	14	14	23rd " -	16	14	14	14	14	14	30th " -	16	14	14	14	18	11	7th December	16	14	14	14	18	16	14th " -	18	14	16	14	18	16	21st " -	22	16	16	16	20	—	Average of six years -	76	22	27	28	22½	61
For the Week ending	Prices—Lbs. per Rupee.																																																																																																											
	Jowári.	Túr pulse.	Rice.	Wheat.	Gram.	Bajri.																																																																																																						
5th October -	36	20	22	28	20	36																																																																																																						
12th " -	22	18	18	20	20	—																																																																																																						
19th " -	20	18	16	20	16	20																																																																																																						
26th " -	20	18	16	20	—	20																																																																																																						
2nd November	14	13	12	12	13	14																																																																																																						
9th " -	17	14	13	12	14	16																																																																																																						
16th " -	14	13	13	16	14	14																																																																																																						
23rd " -	16	14	14	14	14	14																																																																																																						
30th " -	16	14	14	14	18	11																																																																																																						
7th December	16	14	14	14	18	16																																																																																																						
14th " -	18	14	16	14	18	16																																																																																																						
21st " -	22	16	16	16	20	—																																																																																																						
Average of six years -	76	22	27	28	22½	61																																																																																																						

DHARWAR Taluka (District Deputy Collector)											
The kharif crop will yield as follows:—jowári 6 annas, bájri 1 anna, rice 2 annas, túr 2 annas, rági, &c. 3 annas; areas of each not stated. There will be no rabi crop. There is no prospect of further sowings this season.	The District Deputy estimates the remissions at about Rs. 36,268, or one-fourth of the total assessment (Rs. 1,45,072), which both the Collector and the Revenue Commissioner consider excessive, and they are of opinion that the remissions should not exceed Rs. 2,000.	No unusual mortality among cattle, and none is anticipated.	The water-supply is sufficient to last till the commencement of the hot weather in March, after which temporary wells in beds of nalas and in rice lands will have to be sunk and resorted to, as is usually done. The District Deputy recommends the sum of Rs. 400 to be placed in the Mamlatdár's hands to enable him to assist the people in the digging of temporary wells.	For the Week ending	Prices—Lbs. per Rupee.						
					Rice.	Jowári.	Túr (pulse).	Gram.	Wheat.	Bájri.	
				7th October 1876	-	18	32	23	23	28	32
				15th "	-	17	24	18	20	20	24
				23rd "	-	16	22	18	21	20	22
				31st "	-	14	15	16	20	15	16
				7th November 1876	-	15	16	16	19	16	16
				15th "	-	15	16	16	19	16	17
				23rd "	-	15	15	13	17	15	17
				30th "	-	15	16	14	19	16	18
				7th December 1876	-	15	16	15	19	16	19
				15th "	-	16	18	16	19	16	20
				23rd "	-	16	20	16	20	16	22
				Average of six years		26 $\frac{1}{2}$	45 $\frac{1}{2}$	22 $\frac{1}{2}$	22 $\frac{1}{2}$	26 $\frac{1}{2}$	45 $\frac{1}{2}$

KOD Taluka (Second Assistant Collector)									
The yield of the kharif crop is 5 annas, that of the rabi 2 annas; as only seven villages grow rabi, its failure is not serious. There will be no further sowings this season.	Remissions will probably amount to Rs. 1,000.	No unusual mortality among cattle or agricultural stock, nor is any anticipated.	The water-supply is good.	Prices—Lbs. per Rupee.					
				For the Week ending					
				Jowari.	Tur (pulse).	Wheat.	Rice.	Gram.	
				1st October 1876	32	24	20	26	22
				8th "	25	20	20	23	22
				15th "	25	16	14	19	16
				22nd "	24	14	14	15	16
				1st November 1876	22	16	14	15	16
				8th "	22	12	14	15	16
				15th "	22	12	12	15	16
				22nd "	20	14	14	15	16
				1st December 1876	18	12	12	15	14
				8th "	18	16	12	15	16
15th "	18	16	12	16	16				
22nd "	22	14	14	18	16				
1st January 1877	20	18	12	14	16				
Average of six years				66	30	28	30	28	

BANKÁPUR Taluka (First Assistant Collector)										
The kharif and jowári is 6, the rice 5, and the cotton crop 4 annas; relative areas not given. There is no rabi crop in this taluka. There will be no further sowings this season.	Rs. 1,500 will, probably have to be remitted, out of a revenue demand of Rs. 1,77,836.	There has been no unusual mortality among the cattle in the taluka, nor is any anticipated. Fodder is tolerably abundant. The Mamlatdar reports that of the cattle that were sent to the jungles to graze, about 1,000 have died.	The water-supply of this taluka is fair, except in two or three black-soil villages in the north-east extremity.	Prices—Lbs. per Rupee.						
					Jowári.	Túr (dhal).	Rice.	Wheat.	Gram.	Bajri.
For each Week in October, November, and December 1876.										
1st week in October				-	72	48	52	56	44	—
2nd				-	44	32	32	26	32	—
3rd				-	56	32	40	44	32	—
4th				-	40	32	32	32	32	—
1st week in November				-	28	32	28	28	32	—
2nd				-	40	27	32	29	32	—
3rd				-	40	32	32	28	32	—
4th				-	36	32	28	24	32	—
5th				-	36	32	28	24	32	—
1st week in December				-	36	30	28	24	32	—
2nd				-	42	32	32	28	32	—
3rd				-	48	32	40	30	32	—
4th				-	48	32	34	30	32	—
Average of six years -				-	120	84	64	56	44	24

—continued.

f.	g.	h.	i.	j.	k.
Report, dated 5th January 1877).					
The local stock of grain is estimated at about 231 tons, besides which there have been large importations from the coast <i>via</i> Hubli, which is the centre depôt for grain, and from which other markets are supplied. The effect of these importations has been to lower prices, but there is no likelihood of any further considerable fall. Private enterprise is considered sufficient to meet all requirements.	Of the total population, numbering 75,606 souls, 9,200 are high caste and well-to-do, the remaining 64,406 are low caste and poor. Of the whole 55,200 are cultivators, 6,900 artisans, and 11,506 urban. The landholders are not very wealthy, and are not known to have aided their tenants.	About 8,000 persons are estimated to have migrated towards Kanara to assist in harvest operations. Of these some have returned owing to the breaking out of cholera and the prevalence of fever. It is expected that in February about 5,000 or 6,000 people will move into North Kanara to gather the seed of the bamboo, which is in full blossom now.	The only relief work in progress is the new Ron-Nawalgun Road, on which about 5,000 persons are employed. On its completion the District Deputy suggests the following works: The collecting of moorum for the Palla-Badami Road, and improving the tanks at Naregal, Howjerry, Belvanki, Yavgal, and Halakeri. The Collector and the Revenue Commissioner are of opinion that, where possible, relief works should take the form of tanks, instead of new roads, which over a black soil country are useless, unless metalled, and which must in future years be a permanent charge on the local fund of the district.	About Rs. 451 have been spent in minor relief works, such as improving tanks, and Rs. 71 in giving purely charitable relief to travellers, and to the aged and infirm poor.	The number employed on relief works is about 5,064, and that receiving charity about 51. The number in future is estimated by the District Deputy as follow: On the 1st March, 6,000 on works and 100 by charitable measures; 1st May, 8,000 on works and 200 by charitable measures; and on 1st July, 6,000 on works and 300 by charitable measures. The Collector assumes that the number seeking employment between 1st February and 1st May will average 7,000, after which date, if rain fall seasonably and copiously, the number will rapidly diminish.

Mr. J. C. Anding's Report, dated 3rd January 1877).

The District Deputy estimates the local stock of grain at about 925 tons, besides which there have been large importations from the coast <i>via</i> Hubli, the effect of which has been to lower prices considerably. The Collector has no confidence in the above estimate, but agrees with the District Deputy that there is little danger of a failure of food, as private importations will suffice to meet all requirements. He thinks, however, that there is no prospect of a material fall in prices; the imported grain is considered inferior to the local grain and is selling cheaper.	The population is mixed, but the high caste greatly predominates over the low caste. Of the total number 15,532 are cultivators, 23,771 artisans, and 83,427 urban. There are not any very large landholders, and though some are to a certain extent wealthy, they are not likely to assist their tenants.	About 5,000 people have emigrated towards Kanara to assist in harvesting operations. Of these some have returned, owing to cholera breaking out there. It is expected that in February about 10,000 will emigrate thither to gather the seed of the bamboo, which is now in blossom.	The Collector states that at present there is no urgent demand for employment in this taluka; the only work in progress is the improvement of the Mavunkope tank, on the Dharwar and Hüllial road. There are other tank projects which will be taken up as relief works as occasion may require.	The expenditure on account of charitable relief has as yet been trifling, amounting to Rs. 5.	At date of report on relief on works 200. The District Deputy estimates the number likely to be on Government hands hereafter for relief as follows: <table><tr><th>On Works.</th><th>By Charity.</th></tr><tr><td>On 1st Mar. 10,000</td><td>100</td></tr><tr><td>" 1st May 5,000</td><td>100</td></tr><tr><td>" 1st July 1,000</td><td>100</td></tr></table> The Collector thinks the District Deputy wrong in estimating the larger demand in March, but is of opinion that there may be an average of from 5,000 to 10,000 persons, more or less, during February, March, and April, and until rain falls.	On Works.	By Charity.	On 1st Mar. 10,000	100	" 1st May 5,000	100	" 1st July 1,000	100
On Works.	By Charity.												
On 1st Mar. 10,000	100												
" 1st May 5,000	100												
" 1st July 1,000	100												

C. Wiltshire's Report, dated 1st January 1877).

The local stocks are estimated at from 10,906 to 15,000 tons. Importations are still going on from Karwar and Coompta.	Of the population, 40,000 are high and 38,425 of low caste; 200 men are rich; 40,000 are well-to-do, and the remainder are poor; 41,141 are agriculturists, 50 dealers in cattle, 18,642 are artisans, 500 carriers of goods, 2,000 traders, 1,450 Government servants and their families, 2,000 compose the monied gentry, 50 are private schoolmasters, and the residue private servants. There is no fear of distress among the people. There are no wealthy landholders to aid their tenants.	There has been no emigration, and none is anticipated; about 200 beggars and 1,300 labourers have emigrated.	The Hirekerur tank, on which immigrants are chiefly employed, is being repaired by the Irrigational Department. The ryots have subscribed Rs. 3,785 for famine works, with which amount seven roads, two tanks or honds, and one well will be repaired, and three tanks deepened. The Second Assistant submits a list of roads as relief works on which people might hereafter be employed, but the Collector shows that the capabilities of the taluka for irrigational reproductive works are very great, and is strongly of opinion that future relief works should be of this nature rather than roads.	No charitable relief has been given, but the Second Assistant has a reserve of Rs. 1,000 to be so spent.	The Government are likely to have on their hands on the— <table><tr><th></th><th>On Works.</th><th>By charitable Measures.</th></tr><tr><td>1st March</td><td>2,000</td><td>100</td></tr><tr><td>1st May</td><td>1,500</td><td>75</td></tr><tr><td>1st July</td><td>1,000</td><td>50</td></tr></table>		On Works.	By charitable Measures.	1st March	2,000	100	1st May	1,500	75	1st July	1,000	50
	On Works.	By charitable Measures.															
1st March	2,000	100															
1st May	1,500	75															
1st July	1,000	50															

Mr. G. Waddington's Report, dated 6th January 1877).

The local stock of grain is estimated at about 7,143 tons. Large imports are being made from Karwar and elsewhere, and there is no likelihood of supplies for this taluka failing. Prices have considerably fallen, and the Mámálatdár anticipates a further considerable fall, but the First Assistant thinks it probable that prices will remain much as they are for some months to come.	The population of the taluka is 83,175, of whom 52,000 are of the agricultural class and 5,000 are artisans; the remainder 26,175 are traders, including 550 men of some means. There are several landed proprietors of the class of district hereditary officers, who, being involved in debt, are not likely to assist their tenants.	No unusual emigration has taken or is likely to take place. Some labourers who had gone to the jungles to seek employment in the rice harvest have returned.	There has as yet been no great demand for employment. Certain minor works are in progress, such as metal-collecting for the Poona-Harihar road and improving the irrigational tank at Yalwagi. The First Assistant submits a list of projects which, if necessary, can be carried out hereafter as relief works.	There has been no demand as yet for charitable relief, and it is anticipated that in future it will be inconsiderable.	Only about 1,500 persons are at present employed on relief works, but this number will probably increase considerably. The Mámálatdár estimates the numbers likely to be employed hereafter as follows:— <table><tr><td>On 1st March - 4,000</td></tr><tr><td>„ 1st May - 2,000</td></tr><tr><td>„ 1st July - 2,000</td></tr></table> if the usual rain should fall in April and May. About 200 may require to be supported by charity.	On 1st March - 4,000	„ 1st May - 2,000	„ 1st July - 2,000
On 1st March - 4,000								
„ 1st May - 2,000								
„ 1st July - 2,000								

$a.$	$\bar{b}.$	$c.$	$d.$	$e.$
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The yield of the kharif crop is estimated at 1 pie, and that of the rabi at 2 annas.	The remissions are estimated at about Rs.85,000, or nearly one-fourth of the revenue demand, Rs.3,55,816.	About 550 cattle have died from want of fodder, and about 1,180 more deaths are anticipated from the same cause. The people are taking advantage of the permission accorded by Government to graze their cattle free in the forests. The attention of the people has also been drawn by the local officers to the advantage of utilising the prickly-pear leaves as fodder.	The water-supply is very scanty, except in the very few villages situated on the river Malprabha. Temporary wells will have to be sunk in the beds of nalas to meet the difficulty.	Prices—Libs. per Rupee.							
				For the Week ending	Jowari.	Tur (pulse).	Rice.	Wheat.	Gram.	Baghi.	
				7th October 1876	-	38	32	23	36	32	40
				15th "	-	32	32	18	30	32	30
				23rd "	-	24	32	16	20	32	24
				31st "	-	24	32	16	24	32	24
				7th November 1876	-	17	13	14	17	17	17
				15th "	-	16	14	12	16	16	16
				23rd "	-	17	14	14	16	16	16
				30th "	-	17	13	14	16	17	16
				7th December 1876	-	18	14	14	16	18	18
				15th "	-	19	15	17	17	20	18
				23rd "	-	24	16	17	18	20	24
				31st "	-	24	18	18	20	22	24
				Average of six years		51	24	24	32	24	47

25th January 1877.

Collectorates.	a.	b.	c.	d.	e and f.
KHANDESH -	Of the 15 talukas and 3 pethas, the crops in 10 seem fair, and in 8 indifferent.	The proposed remissions amount to Rs. 4,66,000.	The condition of the cattle, except in 4 talukas, appears satisfactory.	The recent heavy rain in Khadesh has probably dissipated all fears regarding the water-supply.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. For Six previous Years. Jowári - 35½ Bājri - 23½ 50½ 44½
NASIK - - -	Of the 11 talukas, the crops in 8 seem fair, and in 3 indifferent.	The proposed remissions amount to Rs. 3,69,500.	The condition of the cattle throughout the Collectorates appears satisfactory.	In 5 talukas the prospects of the water-supply seem satisfactory, and in 6 indifferent. No calamity due to failure of water is anticipated by Government.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. For Six previous Years. Jowári - 25½ Bājri - 10½ 48 40½
AHMEDNAGAR -	Of the 11 talukas, the crops in 2 seem to have been fair, in 5 bad, and in 4 very bad.	The proposed remissions amount to Rs. 5,77,943.	In 6 talukas the condition of the cattle seems satisfactory, in 2 indifferent, and in 3 bad.	In 4 talukas the prospects of the water-supply seem satisfactory; but it is reported that in 5 considerable and in 2 large expenditure on this account will have to be incurred; no calamity due to failure of water-supply is, however, anticipated by the Government.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. For Six previous Years. Jowári - 26 Bājri - 25½ 59½ 53½

-continued.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

Mr. J. C. Anding's Report, dated 11th January 1877).

The local stocks of grain are estimated by the District Deputy at about 5,487 tons. The Collector, however, has not much reliance on these figures, but agrees with the District Deputy in thinking that the large imports which are being made from the coast <i>via</i> Hubli by private enterprise will meet all demands, and there will be no serious rise in prices.	Of the population numbering 101,042 souls, 77,200 are high caste and well-to-do, and 23,842 low caste and poor. There are 53,235 cultivators, 4,889 artisans, and 42,868 urban population. The landholders, though wealthy to a certain extent, are not known to have aided their tenants in any way.	About 10,600 people have emigrated to Kanara, to assist in harvesting operations; but owing to the breaking out of cholera, and the prevalence of fever, some have returned; but in February large numbers are expected to go there to gather the bamboo seed, which is freely eaten by the poor.	The only large relief work in progress in the taluka is the new road from Kunur to Nawalgund (the Hubli - Sholapur road) under the Public Works Department, on which about 10,000 persons are now employed, besides which some minor works are in progress. As these will not last long, the District Deputy recommends for future execution, the Ron-Nawalgund road, and improving the tanks at Tirilapur, Halikeri, Bhigranbathi, Jagapur, Nargund, Arekurbatti, Dattanball, Ballarwar, and Nalwadi.	Rs. 115-0-9 have been expended on charitable minor works, and Rs. 36-8-3 in relieving travellers and the aged and infirm poor unable to work.	The number of persons Government have on their hands at present is 10,213 on relief works and 20 relieved by charity. The number they are likely to have hereafter will be as follows. On the— <table><tr><th></th><th>On</th><th>By charitable</th></tr><tr><th></th><th>Works.</th><th>Measures.</th></tr><tr><td>1st March</td><td>12,000</td><td>100</td></tr><tr><td>1st May</td><td>13,000</td><td>150</td></tr><tr><td>1st July</td><td>16,000</td><td>250</td></tr></table>		On	By charitable		Works.	Measures.	1st March	12,000	100	1st May	13,000	150	1st July	16,000	250
	On	By charitable																		
	Works.	Measures.																		
1st March	12,000	100																		
1st May	13,000	150																		
1st July	16,000	250																		

OBSERVATIONS.

The expenditure on charity has been trifling.

The number of labourers anticipated to be on the hands of the Government is—

On March 1st	-	-	-	-	-	58,000
On May 1st	-	-	-	-	-	51,500
On July 1st	-	-	-	-	-	43,060

This Government must guard themselves against the supposition of being held to accept as accurate or reliable all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

MENT OF BOMBAY TO THE FOREGOING DISTRICT STATEMENTS.

f India in their Letter, No. 459, of 30th November 1876, as regards the Districts of Khandesh, Násik, Kaládgi, Belgaüm, and Dharwar.

<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>		
The majority of the population of this, as of all other Collectories, is either agricultural or very intimately connected with agriculture.	There has been hardly any migration from the district.	The chief relief works are the Dhulia - Pimpalner and Songir-Nandurbar roads.	The expenditure upon charity has been very trifling.	The number of labourers anticipated to be on the hands of Government is on—		
				1st March.	1st May.	1st July.
				16,950	28,200	16,650
The majority of the population of this, as of all other Collectories, is either purely agricultural or very intimately connected with agriculture.	There has been very little emigration.	The chief relief works are the Bhawarbari-Vinchur, Kapralla-Ghat, Vinchur-Niphad, and Niphad-Deopur roads.	The expenditure upon charity has been very trifling.	The number of labourers anticipated to be on the hands of Government is about on—		
				1st March.	1st May.	1st July.
				43,000	53,100	36,300
The majority of the population of this, as of all other Collectories, is either agricultural or very intimately connected with agriculture.	123,553 people out of a population of 773,958 appear to have migrated, but some have returned. A further migration of upwards of 5,000 people is anticipated. The migration appears to this Government to be due mainly, if not entirely, to the cattle movements, and to the movement of the people towards relief works.	A considerable number of relief works is in progress, but the local officers are unable to suggest sufficient to meet the future demand for labour, unless the Dhond and Manmar Railway earthworks are undertaken.	The expenditure on charity has not been large.	The number of labourers anticipated to be on the hands of Government is on—		
				1st March.	1st May.	1st July.
				98,900	148,200	47,500

Statistics
relating to
distressed
districts in
Bombay
Presidency.

STATEMENT

Collectorate.	a.	b.	c.	d.	e and f.
POONA - - -	Of the 8 talukas, the crops in 3 seem good, in 3 indifferent, and in 2 bad.	The proposed remissions amount to Rs. 5,46,354.	In 5 talukas the condition of the cattle appears satisfactory, and in 3 rather the reverse.	Some expenditure of money will render the water-supply throughout the Collectorate satisfactory.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. Jowári - 27½ Báji - 24½
SHOLAPUR - -	Of the 7 talukas, the crops in 3 seem good, in 2 indifferent, and in 2 very bad.	The proposed remissions amount to Rs. 10,01,169.	In 1 taluka the condition of the cattle appears indifferent, and in 6 bad.	In 2 talukas the prospects of the water supply seem satisfactory, in 3 indifferent, and in 2 bad. No calamity due to failure of water is anticipated by Government.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. Jowári - 19½ Báji - 21½
SATARA - - -	Of the 11 talukas, the crops in 7 seem to be fair, in 2 indifferent, and in 2 bad.	The proposed remissions amount on what appears to be an outside estimate to Rs. 5,07,621.	In 8 talukas the condition of the cattle seems satisfactory, in 1 indifferent, and in 2 bad.	In 6 talukas the prospects of the water supply appear satisfactory, and in 5 indifferent. No calamity due to failure of water supply is anticipated by Government.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. Jowári - 26½ Báji - 24½
KALADGI - - -	Of the 8 talukas, the crops in 3 seem to have been bad, and in 5 very bad.	The proposed remissions amount to Rs. 6,95,373.	In 1 taluka the condition of the cattle appears tolerably satisfactory, and in 7 bad.	In 5 talukas the prospects of the water supply seem satisfactory, and in 3 indifferent. No calamity due to failure of water is anticipated by Government.	The local officers appear slightly apprehensive regarding the grain supply of talukas. For October, November, and December 1876. Jowári - 19 Báji - 17½
BELGAUM - - -	Of the 7 talukas, the crops in 4 seem fair, and in 3 bad.	The proposed remissions amount to Rs. 2,50,772.	In 5 talukas the condition of the cattle appears satisfactory, and in 2 bad.	In 5 talukas the prospects of the water supply seems satisfactory, and in 2 indifferent. No calamity due to the failure of water is anticipated by Government.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. Jowári - 17 Báji - 17½
DHARWAR - - -	Of the 11 talukas, the crops in 5 seem to have been tolerable, in 2 bad, and in 4 very bad.	The proposed remissions amount to Rs. 2,70,000.	In 7 talukas the condition of the cattle seems satisfactory, in 3 indifferent, and in 1 bad.	In 8 talukas the prospects of the water supply seems satisfactory; but in 1 considerable, and in 2 large, expenditure seems to be considered necessary. Government do not anticipate any calamity due to the failure of water.	No apprehensions are entertained regarding the grain supply. For October, November, and December 1876. Jowári - 22½ Báji - 19
Total - - -	—	Rs. 46,94,732	—	—	—

(a.) Out of the 89 talukas forming the collectorates of Khandesh, *Násik, Ahmednagar, Poona, Sholapur, Satara, Kaládgi, Belgaum, and Dharwar, the crops of 39 would appear to be fair, of 13 indifferent, and of 37 bad. It must, however, be observed that, as the respective areas of kharif and rabi are not always given, it is occasionally difficult to judge of the position of a taluka from the answer.

(b.) The estimate by the local officers of revenue to be remitted is Rs. 46,84,732. This would seem to be for the year 1876-77; but the question may have been interpreted in various ways.

(c.) The condition of the cattle in 54 talukas appears to be satisfactory, in 14 indifferent, and in 21 bad. The Government are inclined to hope that, except in Sholapur and Kaládgi, the mortality among cattle will be confined almost entirely to the old and worthless animals.

(d.) The water supply of 58 talukas seems satisfactory, while in 31 considerable expense may have to be incurred. Government, however, do not anticipate any calamity due to failure of water supply.

(e & f.) Private enterprise appears quite able to supply the demand for grain, and there are large stocks in the Bombay markets, and on their way from Central India, the North-West Provinces, and elsewhere; but prices seem unlikely to fall materially, as they now appear to be close upon the margin of profit on importation. The average prices throughout the nine districts for October, November, and December are shown to be—

Jowári, 26½ lbs. per rupee.

Báji, 21½ lbs. per rupee.

* No return of the Jámner Taluka, which is reported to be unaffected by scarcity, has been received.
Bombay, 10th February 1877.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

-continued.

<i>g.</i>	<i>h.</i>	<i>i.</i>	<i>j.</i>	<i>k.</i>												
The majority of the population of this, as of all other Collectorates, is either purely agricultural or very intimately connected with agriculture.	101,989 people seem to have migrated. The movement has now stopped. It appears to be to a great extent caused by the necessity of obtaining pasture for the cattle. The people are expected to return before or during the monsoon.	The chief relief works now in progress are the Mutha Canal, the Yewut Tank, the Shirshopal Tank, and the Poona-Pond road.	The expenditure upon charity has been trifling.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July</td></tr><tr><td>80,500</td><td>85,000</td><td>45,300</td></tr></table>	The number of labourers anticipated to be on the hands of Government is on—			1st March.	1st May.	1st July	80,500	85,000	45,300			
The number of labourers anticipated to be on the hands of Government is on—																
1st March.	1st May.	1st July														
80,500	85,000	45,300														
The majority of the population of this, as of all other Collectorates, is either purely agricultural, or very intimately connected with agriculture. The figures given by Mr. Ackworth (and by the District Deputy as respects Karmala), regarding the cultivators and non-cultivators, are obviously absurd. He apparently classes Khatidars alone as cultivators.	212,300 out of a population of 718,034 seem to have migrated. More are expected to follow their example, but on the other hand, some have returned. This migration is to a great extent a cattle movement.	The chief relief works are the Ashti Tank, and the Barsi-Yedsi and Pandharpur-Wangi Roads.	The expenditure upon charity has been considerable.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is about on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July.</td></tr><tr><td>140,000</td><td>186,000</td><td>132,000</td></tr></table>	The number of labourers anticipated to be on the hands of Government is about on—			1st March.	1st May.	1st July.	140,000	186,000	132,000			
The number of labourers anticipated to be on the hands of Government is about on—																
1st March.	1st May.	1st July.														
140,000	186,000	132,000														
The majority of the population of this, as of all other Collectorates, is either agricultural, or very intimately connected with agriculture.	45,163 people out of a population of 1,064,002 seem to have emigrated; some have returned, but further emigration is expected. It appears to be partly a cattle movement, and partly the annual movement in search of labour intensified by the present scarcity.	The chief relief works are the Nehru and Pingli irrigation tanks.	The expenditure upon charity has been trifling.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is about on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July.</td></tr><tr><td>70,500</td><td>92,500</td><td>45,500</td></tr></table>	The number of labourers anticipated to be on the hands of Government is about on—			1st March.	1st May.	1st July.	70,500	92,500	45,500			
The number of labourers anticipated to be on the hands of Government is about on—																
1st March.	1st May.	1st July.														
70,500	92,500	45,500														
The majority of the population of this, as of all other Collectorates, is either agricultural, or very intimately connected with agriculture.	123,900 out of a population of 816,037 appear to have migrated. This movement seems now to have nearly stopped. It is to a great extent due to the necessity of obtaining pasture for the cattle.	The chief relief works are the Sholapur-Hubli and the Sholapur - Bellary Roads.	The expenditure upon charity has been trifling.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is about on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July.</td></tr><tr><td>82,000</td><td>119,500</td><td>63,320</td></tr></table>	The number of labourers anticipated to be on the hands of Government is about on—			1st March.	1st May.	1st July.	82,000	119,500	63,320			
The number of labourers anticipated to be on the hands of Government is about on—																
1st March.	1st May.	1st July.														
82,000	119,500	63,320														
The majority of the population of this, as of all other Collectorates, is either purely agricultural, or very intimately connected with agriculture.	22,900 out of a population of 938,750 appear to have migrated. This movement appears now to have nearly stopped. It is to a great extent due to the necessity of obtaining pasture for the cattle.	The chief relief works are roads.	The expenditure upon charity has been trifling.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is about on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July.</td></tr><tr><td>87,650</td><td>98,720</td><td>79,800</td></tr></table>	The number of labourers anticipated to be on the hands of Government is about on—			1st March.	1st May.	1st July.	87,650	98,720	79,800			
The number of labourers anticipated to be on the hands of Government is about on—																
1st March.	1st May.	1st July.														
87,650	98,720	79,800														
The majority of the population of this, as of all other Collectorates, is either agricultural, or very intimately connected with agriculture.	36,600 people out of a population of 988,037 appear to have migrated, but many have returned owing to outbreaks of sickness; upwards of 15,000 are shortly expected to go into the Kanara jungles to gather bamboo-seeds.	The Poona-Hurrihar, Ron-Nawalgund, and Hubli-Kaladgi Roads, and some irrigation tanks, are the chief relief works in progress.	The expenditure on charity has been trifling.	<table><tr><td colspan="3">The number of labourers anticipated to be on the hands of Government is on—</td></tr><tr><td>1st March.</td><td>1st May.</td><td>1st July.</td></tr><tr><td>58,000</td><td>51,500</td><td>43,000</td></tr><tr><td>677,500</td><td>863,220</td><td>509,370</td></tr></table>	The number of labourers anticipated to be on the hands of Government is on—			1st March.	1st May.	1st July.	58,000	51,500	43,000	677,500	863,220	509,370
The number of labourers anticipated to be on the hands of Government is on—																
1st March.	1st May.	1st July.														
58,000	51,500	43,000														
677,500	863,220	509,370														

No. 671,405

No. 671,405

And the average for the previous six years—

Jowári, 56 lbs. per rupee.

Báji, 47 lbs. per rupee.

It must, however, be remembered that the great general rise of prices did not occur early in October. The average is now about 23½ lbs. per rupee.

(g.) This question has been variously understood. In some talukas Brahmins alone would appear to be entered as high caste; in others all, save Mhars, &c., are so entered. The population of the affected area may be said to be almost entirely agricultural.

(h.) The migration is stated to amount to 671,405, and is chiefly from Ahmednagar, Poona, Sholapur, and Kaládgi. It is probable that most of these people have simply moved from one part of British territory to another, either in search of work or pasture, and the majority will, no doubt, return to their villages next monsoon.

(i.) The expenditure of Government money upon charity has not been large.

(k.) The estimate of the number of people upon relief works is as follows:—

1st March.	1st May.	1st July.
677,500	863,220	509,370

The estimate made by this Government in November was an average of 750,000, 800,000, and 300,000 respectively for the above three months.

(Signed) C. G. W. MACPHERSON,
Under Secretary to Government.

STATEMENT B.

ABSTRACT OF STATEMENT A. AND OTHER INFORMATION RELATING

N.B.—This Abstract is compiled from Statement A., the Weekly Progress Statements issued by the Collectors, and

STATEMENT B.—ABSTRACT of the REVIEW and FORECAST

District.		Area in Square Miles.		Population.		Prices of Staple Grain in lbs. per Rupee.								Rainfall.	
		Total.	Affected.	Total.	Affected.	Ordinary Prices, Six Years' Average.		Average Prices on						Five Years' Average.	Up to February 9th 1877.
								November 29th 1876.		January 5th 1877.		February 9th 1877. .			
						Jowári.	Bájeri.	Jowári.	Bájeri.	Jowári.	Bájeri.	Jowári.	Bájeri.		
1	Khandesh -	10,162	5,500	1,028,642	646,944	56	54	31	26	31	28½	34½	28½	24·94	14·4
2	Násik -	8,113	2,000	729,252	250,000	54	47	29	26	33	28	32	29	35·29	27·58
3	Ahmednagar -	6,647	5,340	773,938	640,000	76	66	22½	20½	28	28	26	24	24·3	10·65
4	Poona -	5,099	2,500	907,235	318,601	65	51	18½	18½	20½	20	25½	23½	30·6	20·76
5	Sholapur -	4,496	4,496	718,034	718,034	66	60	17	—	20	—	20	—	25·21	8·11
6	Satara -	4,988	2,682	1,061,002	461,000	39	35	16	17	19	19½	20	20	54·60	25·43
7	Kaládgi -	5,695	5,695	616,037	816,037	56	76	12	—	16	—	17½	17½	22·43	6·13
8	Belgaum -	4,591	2,660	938,750	501,000	43	54	16	—	18	20	19	19	30·43	21·34
9	Dharwar -	4,564	3,000	988,037	630,000	43	—	13	—	17½	—	18	—	26·29	13·81
Total -		54,355	33,873	7,963,927	4,981,616	—	—	—	—	—	—	—	—	—	—

A careful estimate of the amount (if any) of the crop which has been saved, calculated in annas, on the assumption of an average yield being represented by 12 annas; *khariif* and *rabi* should be shown separately. If there be any prospect of further sowings, it should be mentioned.

An estimate, as close as may at the time be practicable, of the amount of revenue to be remitted.

Information as to the mortality, past and anticipated, among cattle and agricultural stock; the measures already adopted by Government and the people, their result, and suggestions for the future.

The nature of the water-supply, extent of its failure, further anticipated failure up to next rains, and remedial measures possible, if any.

The course of prices weekly of each of the principal food-grains from October 1st up to the date of report in each case, and six years' averages.

KHANDESH:

After making allowance for the proportions of *khariif* and *rabi* cultivation, the amount of crop saved is approximately as under:—

Full average	in 4 subdivisions.
Three-fourths	3
Two-thirds	2
One-half	4
One-third	6
	19

Of these subdivisions, 16 are talukas, and 3 are pethas, or portions of a taluka separately administered and reported on.

The reduction in the estimate of remissions, resulting from further scrutiny of the effects of the drought, is very remarkable. The original estimate was Rs. 7,56,000. In paragraph 12 of Sir R. Temple's minute of January 12th, however, the amount is put down, on the statement of the local authorities, at 5 lakhs, and we now learn that Rs. 4,66,000 is probably a maximum estimate.

There has been no unusual mortality among the cattle, and none is anticipated, excepting in a group of four talukas bordering on the Taptee, where want of fodder and water are expected to be severely felt. The throwing open of the Government Forest reserves appears to have had an excellent effect.

No anxiety regarding the water-supply, except in one taluka, where the failure has been serious, and in the group of four already mentioned, where it may be considerable. In other parts scarcity will be felt in individual villages or groups of villages only. The deepening, clearing, or repair of existing wells, and in some cases the sinking of new ones, are recommended for several talukas. The recent heavy rain may have improved matters somewhat.

Famine prices do not exist in any part of Khandesh. In the taluka of Erandole where they are higher than in any other part, the number of lbs. of the four principal grains which could be purchased for one rupee was as follows: bájeri, 24 lbs.; wheat, 24 lbs.; jowári, 24 lbs.; and tūr dal, 16 lbs. The average prices during six years were 32, 38, 48 and 22 lbs. respectively.

NÁSÍK:

The crop saved is estimated as—
Three-fourths in 1 taluka.
Two-thirds " 3 talukas.
One-half " 4 "
One-third " 2 "
One-fourth " 1 taluka.
— 11 talukas.

The remissions are put at Rs. 3,69,000, but the Collector informed Sir R. Temple that they would probably not exceed 3 lakhs.

This district possesses the Ghát mountainous country to the westward, besides the Chandore range of hills and other advantages, of which the people have freely availed themselves; so the condition of the cattle is generally satisfactory.

In all except three or four talukas the scarcity of water will be considerable, and in parts of some it will be severe. The habilitation of all existing wells, the digging of holes in beds of tanks and streams, and even temporary desertion of villages will be resorted to.

This district was rather pinched by a rise of prices about the middle of November, but they rapidly recovered, and have since further improved; though perhaps, on the whole, they are not quite so low as in Khandesh.

AHMEDNAGAR:

The crop saved is estimated as—
Two-thirds in 3 talukas.
One-half " 2 "
One-third " 3 "
One-fourth " 1 taluka.
One-sixth " 1 "
Nil " 1 "
— 11 talukas.

The remissions are stated by the local officers to be likely to reach Rs. 5,77,000, but the Revenue Commissioner appears to consider this estimate too high, as the assessment is very light, and people fairly well off ought to pay up.

The condition of the cattle seems satisfactory in six talukas, indifferent in two, and bad in three. One of the latter, which has suffered severely, is expected to lose one-half of its stock of 60,000 head.

There will be a serious deficiency of the water-supply in five out of nine talukas, and considerable expenditure must be incurred in well-deepening and other expedients, especially in two talukas, but the Government do not anticipate any calamity.

Prices appear to be on the whole somewhat easier than in the Násik district.

STATEMENT B.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

THE DISTRESSED DISTRICTS IN THE BOMBAY PRESIDENCY.

the Bombay Government, and the original Reports of the Assistant and Deputy Collectors, Revenue Commissioners.

the CONDITION and PROSPECTS of the BOMBAY PRESIDENCY.

Cultivation, Proportions of				Land Revenue.		Number of Persons to be relieved.									
Kharif.		Rabi.		Approximate Demand.	Estimated Remissions.	By Charity.					On Works.				
acres.	Per-centage.	Acres.	Per-centage.			Christ-mas 1876.	Actual on February 9th, 1877.	March 1st, 1877.	May 1st, 1877.	July 1st, 1877.	Christ-mas 1876.	Actual on February 9th, 1877.	March 1st, 1877.	May 1st, 1877.	July 1st, 1877.
				Rs.	Rs.										
42,322	84·81	279,896	15·19	30,26,127	4,66,900	201	532	920	1,540	1,740	4,598	3,480	16,950	28,200	16,650
74,818	58·02	400,250	41·98	12,48,993	3,69,500	1,782	7,859	250	300	500	14,926	17,000	43,000	53,100	36,300
88,215	16·35	1,181,343	83·65	13,22,040	5,77,943	2,215	3,953	650	1,300	500	37,703	25,716	98,900	148,200	47,500
59,821	55·83	591,079	44·17	11,29,936	5,43,354	1,129	20,704	1,255	1,635	1,625	46,854	49,700	80,500	85,500	45,300
45,091	26·99	1,649,324	73·01	10,73,905	10,01,169	7,716	4,288	7,500	10,950	11,500	72,219	49,415	140,000	186,000	132,000
87,835	78·00	239,337	22·00	15,54,329	5,07,621	1	4,351	1,200	2,150	2,650	20,734	14,391	70,500	92,500	45,500
70,686	34·95	1,134,671	65·05	12,08,116	6,96,373	84	122	14,723	14,923	14,923	29,083	50,835	82,000	119,500	63,320
32,875	57·04	293,383	42·96	12,53,917	2,50,772	547	401	6,300	2,000	6,800	28,890	12,034	87,650	98,720	79,800
36,988	13·01	732,229	86·99	20,33,291	2,70,000	571	Return not received.	810	1,055	1,050	26,721	26,587	58,000	51,500	43,000
89,251	77·29	6,561,018	22·71	1,38,50,076	46,81,732	14,246	42,300	33,608	35,873	41,288	281,728	249,158	677,500	863,220	509,370

The local stocks, as far as ascertainable; the centres, railway stations or otherwise, hence further supplies are being or may be drawn, and the probability of private enterprise being sufficient to maintain them, as also of a fall in prices owing to ample exportation.

The character of the population, whether high or low caste, poor or well-to-do, purely or only partly agricultural, and if the latter, in what proportions urban or artisan; also the character of the landholders, whether large, wealthy, able to aid their tenants and likely to do so, or the reverse.

The movements of the people; how far emigration has taken place, and with what result (have the people bettered themselves, or merely gone elsewhere to starve, or are they returning), and whether further emigration is probable.

The relief works already started, their sufficiency or otherwise, and the further works which are considered practicable, arranged in the order of their necessity.

The nature and amount of charitable relief given to travellers, and to the aged, infirm, &c. who are unable to work.

The local stocks are considerable in some talukas, and importations by railway and from the Nizam's dominions are equal to all demands.

The population is chiefly agricultural, and in some parts decidedly well-to-do. The western talukas, which contain a large proportion of Bhils, who are poor and of unsettled habits, have fortunately escaped the drought almost entirely. There is no large landholder class, but in three talukas a few individuals will help their tenants, and in six more the money-lenders are said to be likely to make advances freely.

There has been no noticeable emigration, except from one taluka, Bhosawul, and there further emigration is said to be probable.

There is no complete list of works, but it appears from the weekly report that on 31st December 23 had been completed, and 53, nearly all small, except one tank at Mhasawad, were in hand. Of the Pimpalner locality it is said that "no relief works are in progress, nor will any be needed."

Scarcely any charitable relief has been given, though the public have raised subscriptions in seven talukas; portions of these have been applied with questionable prudence and success, though with the most benevolent motives, in purchasing grain for resale to the poor.

The local stocks in nearly all talukas are believed to be small, but the railway being everywhere within easy reach, no apprehensions are entertained, and private enterprise will keep up adequate supplies.

There may be said to be no landholders, except the Chief of Vinchur, who are in a position to aid their tenantry.

Many people of this district are in the habit of going to Bombay and elsewhere every year, during the fair season, in search of a livelihood. This emigration and that of the people in charge of cattle sent away to graze may be rather more extensive than usual, and will tend to relieve local pressure.

Three roads have been completed, and three more, of which two employ from 5,000 to 10,000 persons, are in progress.

No charitable relief has yet been found necessary in eight out of the eleven talukas, and in the others the expenditure has been small.

Considerable stocks exist in some talukas, and importation is going on briskly from both the railway and the Nizam's territory.

There are a few large landholders, but a fair proportion of the population are tolerably well-to-do.

From eight of the talukas there has been a considerable emigration, estimated at one-sixth of the entire population of the district; some few have returned, but others are going and likely to go.

Fifty-one works have been completed, and 42 more are in progress.

Charitable relief is being dispensed in eight talukas, but on a small scale.

Statistics
relating to
distressed
districts in
Bombay
Presidency.

A careful estimate of the amount (if any) of the crop which has been saved, calculated in annas on the assumption of an average yield been represented by 12 annas; <i>kharif</i> and <i>rabi</i> should be shown separately. If there be any prospect of further sowings, it should be mentioned.	An estimate, as close as may at the time be practicable, of the amount of revenue to be remitted.	Information as to the mortality, past and anticipated, among cattle and agricultural stock; the measures already adopted by Government and the people, their result, and suggestions for the future.	The nature of the water supply, extent of its failure, further anticipated failure up to next rains, and remedial measures possible, if any.	The course of prices of each of the principal food-grains from October 1st up to the date of report in each case, and six yearly averages.
POONA: The crop saved is believed to be:— One-half in 3 talukas. One-third " 2 " One-fourth " 1 taluka. <i>Nil</i> " 2 talukas. 8 talukas.	The proposed remissions are Rs. 5,46,000 according to these reports, but 6 lakhs are mentioned by Sir R. Temple. The Revenue Commissioner, however, considers that much of the revenue proposed for remission can be collected either this year or next.	The cattle in Bhimthari and Indapur talukas have suffered considerably, and in three other talukas there has been some mortality. But the bulk of the cattle have been taken off to pastures out of the district.	Considerable expenditure on deepening wells, &c. is contemplated in order to supplement the water-supply, which is failing partially in most talukas.	There are some singular differences of price, different talukas, but the whole the rates scarcely as favourable as the average.
SHOLAPUR: In one taluka one-fourth of the crop has been saved, but in the remaining six nothing whatever.	The proposed remissions amount to 10 lakhs, or nearly the whole realisable revenue of the year, and it would appear that this estimate is not likely to be much improved upon.	Out of 720,646 animals, 344,700 have been sent to other districts for pasture, and 49,000 are believed to have died. Further large mortality is expected in at least four talukas.	The water-supply in three talukas is indifferent, and in two bad. Considerable expense will have to be incurred.	Prices are generally higher than in the Collector's above-mentioned, and especially so in the San taluka.
SATARA: The crop saved is estimated at:— Full average in 2 talukas. Three-fourths " 3 " Two-thirds " 2 " One-half " 1 " One-third " 1 " One-fourth " 1 " One-sixth " 1 " 11	The remissions are estimated by the local officers at Rs. 5,07,621, but this sum, amounting to half the entire land revenue, is higher in proportion than the estimate for other districts which have suffered more severely, and is considered by both the Collector and the Revenue Commissioner to be capable of reduction.	The condition of the cattle is on the whole satisfactory, and the vicinity of the ghâts prevents any serious apprehension, but in three talukas there has been some mortality, and more is anticipated.	Five talukas will be somewhat short of water, and some expenditure will be necessary in deepening and clearing wells, &c.	There was a sudden severe rise of prices chiefly by panic, but recovery was rapid, as was poured in both the port of Chiploom. Poona and prices are fair, though still below Poona and what might be expected to The Collector anticipates a second rise before the rain on exhaustion of existing supplies.
KALÁDGI: The crop saved is estimated at:— One-fourth in 1 taluka. One-sixth " 1 " <i>Nil</i> " 6 " 8	The remissions are put at Rs. 6,95,373, and the local officers do not hold out much prospect of reduction in this amount. Its lowness in proportion to the estimate for Sholapur is probably attributable to the people generally being more thrifty and well-to-do, and less in debt, as also to Kaládgi having had a better harvest in 1875-76.	The loss of cattle has been very severe in two talukas, and serious in the others except one. A certain number have been taken to the Ghâts and the Nizam's dominions to graze, but further heavy loss is expected.	The water-supply is sufficient in five talukas, and indifferent in three, but no calamity is anticipated.	Prices have been and continue still to be to a certain extent, lower than any other district.
BELGAUM: The crop saved is estimated at:— Two thirds in 1 taluka. One half " 2 " One fourth " 1 " One third " 1 " <i>Nil</i> " 3 " 7	Remissions to the extent of Rs. 2,50,772, or about one fifth of the revenue, are proposed, and this amount seems not likely to be exceeded, according to the remarks of the Revenue Commissioner, who has passed some years in the district as Collector.	In two taluks the cattle have suffered a good deal, and further mortality is apprehended. In the rest they are doing fairly.	There will be some difficulty and consequent expense in two talukas only.	Prices are still comparatively high, though much improved, and better than in the adjoining districts of Kaládgi and Dharwar.
DHARWAR: The crop saved is as under: One half in 1 taluka. One third " 3 " One fourth " 2 " One sixth " 2 " <i>Nil</i> " 3 " 11	The proposed remissions are Rs. 2,70,000, but this amount appears, from the remarks of the District Officers, to be an outside estimate. On the other hand, 4 lakhs was the figure given to Sir Richard Temple by the late Collector, Mr. Robertson.	Four talukas have suffered as regards cattle, but not very severely compared with other districts.	The Government of Bombay anticipate considerable expenditure in one taluka, and large outlay in two more, in consequence of the failure of the water-supply.	Prices are somewhat higher than in the adjacent district of Belgaum.

continued.

the local stocks, as far as ascertainable; the centres, railway stations or otherwise, whence further supplies are being or may be drawn, and the probability of private enterprise being sufficient to maintain them, as also of a fall in prices owing to ample importation.	The character of the population, whether high or low caste, poor or well-to-do, purely or only partly agricultural, and if the latter, in what proportions, urban or artisans; also the character of the landholders, whether large, wealthy, able to aid their tenants, and likely to do so, or the reverse.	The movements of the people; how far emigration has taken place, and with what result (have the people bettered themselves, or merely gone elsewhere to starve, or are they returning), and whether further emigration is probable.	The relief works already started, their sufficiency or otherwise, and the further works which are considered practicable, arranged in the order of their necessity.	The nature and amount of charitable relief given to travellers and to the aged, infirm, &c., who are unable to work.
the local stocks of grain in at least half the district are considerable, and the railway will supply all that may be needed.	There are no wealthy landlords in the districts to help their tenantry, and the ryots are for the most part deeply in debt.	The emigration from three taluks has been unusually large, and, in all, the district has been relieved of above one-eighth of its population. The care of cattle has been one chief cause, but others have gone for employment. All who survive are expected to return.	Fifty-six relief works have been completed, and 99 more are in progress, including the Moota canal, two large tanks, and a considerable road work. Many small works are also proposed for execution if required.	The demand for charitable relief has been considerable, chiefly for children under seven years old whose parents are on relief works, and for women taking care of them.
the stocks do not seem to be anywhere large, but the importation by rail will be ample.	The people generally are very poor, and there are no large landholders.	About one-third of the population of the district have emigrated, and on the whole are understood not to have bettered their condition. Some have returned, and all who survive may be expected to return by the cultivating season.	Thirty-four works have been completed, and 192 are in progress. Some others are proposed, especially irrigation works which are considered to be most likely to be beneficial. The Dhond-Manmar Railway will be some help, but it is at a considerable distance from most parts of the district.	Considerable charitable relief has been given both by Government and the Sholapur Relief Committee, who have influential support from Bombay, and have been most conspicuous for their public-spirited exertions.
rain is plentiful, local stocks are believed to be considerable, and importation goes on freely from Poona and the port of Chiploon.	Four or five talukas contain a few wealthy Inamdars who may be expected to aid their tenants.	The emigration is reported to have been 45,163 out of a population of 1,064,002. The emigration during the fair season in search of labour is always considerable in this district, and has been intensified by the scarcity.	The Pingli and Nehr tanks, to cost about 3½ lakhs, were in progress, and the Mhaswar tank, to cost about 18 lakhs, was about to be commenced at the close of the year. Thirty-six other works, mostly small, were also in hand.	No charitable relief has been required, except in four talukas, where it is given to a trifling extent.
the local stocks are believed to be generally small, and the importations labour under some difficulties, so that apprehensions of their cessation and of consequent high prices are entertained regarding five taluks.	There is a certain sprinkling of large landholders, some of whom will help their tenants.	Fully one-sixth of the population have emigrated, drawn especially from the Indi, Sindgi, Bejapur, and Badami taluks, but the movement has stopped.	The chief works are two main roads. Sixty-five works had been completed at the close of the year and 70 more were in hand, of which one employed above 5,000 and the other above 10,000 labourers.	The expenditure by Government on charitable relief has been trifling, but considerable sums have been subscribed in some places by private parties.
prices have been greatly improved by large supplies from the sea-ports of Goa and Vingorla, and no rise is anticipated, at least till the monsoon closes the coast. The local stocks in some parts are considerable.	There is a fair proportion of well-to-do people, but no body of large landholders able to help their tenants.	The emigration has been comparatively trifling, and chiefly connected with the cattle. Three talukas have an influx of persons from other parts.	Sixteen works were completed, and 64 others, mostly small, in progress at the close of the year. The Golkak canal is about to be commenced.	Relief houses have been established, but little relief has actually been given as yet. Private persons have subscribed liberally.
the local stocks of grain are fair in some few talukas, and importation is going on freely from the port of Carwar.	The people generally are well-to-do, and there are some large landholders, but they are not expected generally to aid their tenants.	The emigration has been comparatively small, and it is not likely to extend, with the exception of a body of 15,000 expected to go to Kanara to gather bamboo seeds.	Nineteen relief works had been completed, and 43 were in progress at the end of the year. Others had been proposed. One work employed over 4,000 and another over 10,000 labourers.	The charitable relief has been trifling.

No. 115.

EXTRACT from the PROCEEDINGS of the GOVERNMENT OF INDIA, in the Department of Revenue, Agriculture, and Commerce, dated Calcutta, the 21st February 1877.

Review of statistics regarding the distress in the Bombay Presidency.

As soon as the Government of India became aware, from the official reports of the Government of Bombay, and other sources, that the scarcity showing itself in that presidency was not unlikely to assume formidable proportions, the submission was requested of statements, containing elementary statistical information and a rough estimate of the probable failure of crops, regarding each taluka of the affected districts.

2. This information was supplied by the Government of Bombay with the utmost promptitude, and has since proved extremely valuable. It was, however, necessarily defective and temporary as regards the failure of crops, inasmuch as the careful field inspections which take place annually in the Bombay Presidency had at that date barely commenced, and the period during which local or general rain might have materially altered the aspect of affairs had not altogether passed away. At the same time the particulars which it comprised revealed the very serious nature of the calamity then imminent, and the necessity for full and searching inquiry upon various points not included in the previous returns, with the view of avoiding, on the one hand, expenditure in excess of the requirements of any locality, and on the other, the occurrence of disaster owing to the deficiency of grain supplies, the failure of water, or the need for further relief, whether by works or charitable measures, having been anywhere overlooked. The Government of Bombay were therefore requested to supplement their previous returns by a complete review and forecast of the situation, and, in accordance with the precedents of the famine of 1874, and the West Behar scarcity of 1875, to forward the original opinions of the mass of local officers, to which, when given deliberately, fully, unreservedly, and promptly, considerable value has always been justly attached. Such a review and forecast, it may be added, is of inestimable service, not only to the high authorities by whom it is eventually considered, but to the local officers themselves, by directing the attention of every one of them to all the points which it is advisable to keep in view, and leading them to endeavour to form regarding each an opinion in the case of their individual charge.

3. His Excellency the Governor-General in Council has now to express his warm acknowledgments of the punctuality, care, and ability with which this somewhat onerous requisition has been responded to. The reports of the Assistant and Deputy Collectors in charge of talukas now submitted, contain ample evidence both of acquaintance with and attention to their charges on the part of the several mamlatdars subordinate to them, and of energetic, watchful, and intelligent supervision on the part of the reporting officers themselves, while the remarks and criticisms of the Collectors and Revenue Commissioners show that they have fully grasped the situation and the serious responsibilities which it imposes upon them, and will not fail to afford all necessary relief to the suffering multitudes dependent on their care, while not losing sight of the vigilant economy which the financial necessities of the State render indispensable. The Government of Bombay have very properly expressed a desire to "guard themselves against the supposition of being held to accept, as accurate or reliable, all the information contained in these reports, the time allowed for their preparation having been so short, considering the intricacy and difficulty of the inquiry, especially at a time when the district officers have been so fully engaged in other matters." The Government of India fully acknowledge the difficulties pointed out, and will be careful not to attribute to the Government of Bombay the responsibility thus deprecated. His Excellency the Governor-General in Council would have been glad to have fixed a more distant date for the submission of the reports if such a course would not have made them too late for the practical purposes for which they were intended; but, considering the advantages possessed by the Bombay Presidency in a complete system of village agricultural statistics, in a strong staff of officials in each taluka, and in the custom of Assistant and Deputy Collectors travelling about their charges for a large portion of the year, no less than the general evidences of care and acquaintance with the subject afforded by the reports received, his Excellency in Council believes that the information now laid before the Government of India is as complete and trustworthy as it was possible to obtain in time to be of service. His Excellency in Council has much pleasure in making public his general commendation of these reports, leaving it to the Local Government, if they think fit, to express their own approval of individual complete and thoughtful documents comprised in the collection.

4. The review now submitted comprised 90 talukas and 3 pettas, or separately administered portions of talukas, making a total of 93 subdivisions of nine districts, all

of which are situated above the Ghâts, and extend from the Satpura range of mountains, north of the Taptee River, to the southern extremity of the Bombay Presidency. Some failure of crops has occurred in portions of two districts, Colaba and Ratnagiri, on the sea coast, but their condition is not such as to cause any anxiety, or to call for extensive relief operations. The area and population, both total and affected, of the nine districts, are given by the Bombay Government in their weekly statements at the figures quoted in the margin. These figures of the affected tracts nearly correspond on

Review of statistics regarding the distress in the Bombay Presidency.

	Total.	Affected.
Area in square miles - - -	54,355	33,873
Population - - -	7,963,927	4,981,616

the whole, though not always in the case of individual districts, with the area and population of the talukas in which, according to the present review, the crop saved is estimated at less than one-half. If talukas in which the crop saved amounts to one-half be also considered as famine-stricken, then the affected area and population will be raised to 41,254 and 6,180,209 respectively.

5. The rain-fall during the past season, as reported in the returns of November, since which date no fall of any importance has occurred, is shown in the margin for 86 talukas, for which the information is complete.

Population.	Number of Talukas.
Full rain-fall - - - - -	4
Three-fourths - - - - -	14
Two-thirds - - - - -	12
One-half - - - - -	26
One-third - - - - -	21
One-quarter - - - - -	8
One-seventh - - - - -	1
Total - - - - -	86

lished by the Bombay Chief Engineer for Irrigation on the 19th of that month.

6. The proportions of *kharif* and *rabi* crops which have been saved have been stated

Districts.	Number of Talukas in which the Crop was—						
	Full average.	Three-fourths.	Two-thirds.	One-half.	One-third.	One-fourth.	One-sixth.
Khandeish - - -	4	3	2	4	6	—	—
Násik - - -	—	1	3	4	2	1	—
Ahmednagar - - -	—	—	3	2	3	1	1
Poona - - -	—	—	—	3	2	1	—
Sholapur - - -	—	—	—	—	—	1	—
Satara - - -	2	3	2	1	1	1	—
Kaládgi - - -	—	—	—	—	—	1	1
Belgaum - - -	—	—	—	1	2	—	—
Dharwar - - -	—	—	—	—	1	3	2
Total - - -	6	7	11	17	18	8	5

separately in the several taluka reports with such accuracy as was under the circumstances practicable. Reducing these to one figure for the taluka, by the aid of the proportions of *kharif* and *rabi* cultivation in the preceding year 1875–76, as given in the returns of November, the proportions of crop saved were, in round numbers, as shown in the margin. Contrasting these results with those obtained from the November estimates of failure, which were, as already observed, too early in date to be more than a very rough forecast, it is highly satisfactory to find that they show a more favourable condition of affairs. Whereas, by the returns of November, as summarized in the fifth paragraph of the Despatch from the Government of India to the Secretary of State, No. 2, dated 12th January, the crop saved was above half in 11 districts only, it is now found to be above that proportion in 24. The districts in which there has been total, or almost total, failure, remain 21 in both cases, and the intermediate number (comprising from one-half to one-sixth of crop saved) is consequently reduced from 59 to 48, out of which 17 have got a half crop.*

8. The information now received on the important subject of remissions is equally satisfactory. The loss of revenue was reported in the 10th paragraph of the Despatch above quoted as likely to reach 66 lakhs of rupees, of which 46 lakhs were to fall in the current *financial* year and 20 lakhs in 1877–78. Later on, the estimate of the Bombay Government for the two years was about 76½ lakhs, and Sir Richard Temple, somewhat later still, gave 50 lakhs as the amount suggested to him by those local authorities with whom he had had an opportunity of conferring. The estimate under the present returns which seems, like that of Sir Richard Temple, to be for the *revenue* year which ends on July 31st, is Rs. 46,84,732, and there is reason to hope, from the language used by

* The discrepancy of two is owing to the addition of three *pettas* to, and the omission of Mahabaleshwar from, the present returns.

Review of statistics regarding the distress in the Bombay Presidency.

many of the local officers, that this may prove to be an outside estimate. As regards the principles upon which remissions should be granted, the Government of India were in November last in correspondence with the Government of Bombay, and authorised them to abstain from selling the occupancy right of ryots for arrears of land revenue which were attributable to the unfavourableness of the season, and also to extend, by executive order, to the case of any sales of movable property which might be indispensable, the exemptions which had been proposed in section 266 of the Civil Procedure Code Bill. Subsequently, Sir Richard Temple's suggestion for suspending arrears till the following year, instead of remitting them at once, was communicated to the Local Government for guidance; but on their pointing out objections to the measure arising from the Bombay revenue system, the matter has been left entirely to their discretion, with the request that the local authorities may be again warned against too free remissions, and authorised to hold balances in suspense in cases in which it appears probable that the landholder will, without undue pressure, be able to pay up next season—a course, it may be observed, which is recommended by several officers in the reports now under consideration. The amount of loss of revenue which may occur in the financial and revenue years 1877–78, in consequence of less land being cultivated through the impoverishment of the ryots and their loss of agricultural stock, cannot at present be estimated, and none of the local officers have attempted to do so. Taking all the above circumstances into consideration, however, his Excellency the Governor-General in Council sees reason to hope that the entire loss of revenue in the two financial years may not be so great as was at first apprehended.

9. The question of the condition of the cattle and stock, at all times a highly			important one, is especially so in the case of the Bombay affected districts, owing to their wealth in this respect, the proportion of animals to population being, it may be observed, 34 per cent. greater than in the
Horses, ponies, and mules	-	100,997	
Oxen, cows, bulls, and buffaloes	-	4,589,971	
Sheep and goats	-	2,549,027	
		7,239,995	

affected districts of Madras. In some talukas the mortality has been most severe, the districts of Ahmednagar, Sholapur, and Kaladgi having apparently been the greatest sufferers. The cattle have, however, been driven away in masses, in the case of Sholapur to the extent of one half their entire number, to the Ghauts or other accessible pastures, and the early steps taken by the Government of Bombay to throw open the forest reserves, and to facilitate the passage of cattle both by road and rail, have had a highly beneficial result. His Excellency the Governor-General in Council concurs with that Government in the hope that the mortality will, except in certain cases, be found to have been confined to the more old and worthless animals, and trusts that its per-centage will be found not to be high on the total number, and that the grant of takavi advances for the purchase of fresh cattle, when the ploughing season approaches, for which the Government of India have already given free sanction, may prevent any great falling off in cultivation during the coming year.

10. The condition of the water supply is intimately connected with that of the cattle. The Government of Bombay consider it to be satisfactory in 58 talukas, while in 31 others considerable expense may have to be incurred in clearing out or deepening existing wells, in sinking new ones, and in other remedial measures. His Excellency the Governor-General in Council has every confidence that such relief as may be possible will be afforded, and is glad to learn that the Local Government anticipate no calamity from this source.

11. The course of prices during the critical period from the end of October to the close of the year is very clearly shown in the summary of the taluka reports, statement A., column (e), and is remarkable for the sudden rise which in most cases occurred near the middle of November, and the almost equally rapid fall which followed as soon as the scarcity became known, and private enterprise came forward to supply the deficiency. Severe and extensive, however, as the failure of crops has been, the prices have at no time been generally so high as what are ordinarily understood to be famine prices, and they have become now so favourable that according to the latest accounts there are probably only two or at most three districts where they are on an average higher than 10 seers per rupee, which is the rate long since fixed by the Government of India as that on prices rising beyond which grain batta may be allowed to public servants drawing Rs. 16 per mensem and under. The famine is not so much one of food as of money to buy it with, and it must not be overlooked that wherever failure of crops has been only partial, the crop saved will produce an amount far in excess of what it would have been worth in ordinary years. The activity and sufficiency of

private trade in the Bombay Presidency have been so fully established, chiefly in consequence of the policy from the first pursued, that his Excellency the Governor-General in Council has every confidence that, even if, as anticipated by the Bombay Government, no further material fall should take place, no interference on the part of Government will be required, even in the Southern Mahratta Country, where difficulty of access and local combinations occasioned some anxiety before the close of last year.

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12. The character of the population, which in some parts of India is a very important feature in the formation of an estimate of the State relief likely to be required in times of scarcity, would appear to be in Bombay tolerably uniform and little likely to affect the issue. The people are mostly agricultural, the number of peasant proprietors is very great, and there are few large and wealthy landholders who are able to assist their tenantry.

13. The emigration has amounted to 671,405, or about 13·5 per cent. on the affected population, and has been to a large extent induced by the necessity for driving the cattle to distant pastures. One body has passed to the north-east into the Nizam's Dominions, Berar, and even the Central Provinces, while another, probably the larger of the two, has resorted to the Western Ghâts along their whole line. From certain talukas, which annually during the fair season send forth bands of labourers to Bombay, Gujerat, and other parts, larger numbers than usual have gone in search of a livelihood. The condition of those who have thus left their homes it is not easy to ascertain, but for the most part they appear to have been fairly successful in their sojourn. Of all who survive, it may be safely predicted that they will return on the approach of the monsoon.

14. Upon the subject of relief works it is sufficient to observe that at the close of the year 270 works, of which 89 were roads and 36 were tanks, had been completed, while 618 were in progress, of which 33 gave employment to 2,000 labourers and upwards.

15. The Government grants for charitable relief have been large, but the demands on them up to the 9th instant have only amounted to Rs. 38,288, of which two thirds have been spent in the Poona and Sholapur districts. The relief is given to the aged and infirm poor, and, in two out of the three divisions, to the young children of labourers employed on the works. As the total number of persons relieved on the above date was 42,300, there would appear some grounds for the belief that the estimates under this head, which are within that number, are likely to be considerably exceeded. Any notice of this subject would be incomplete without a reference to the action of private charity. His Excellency the Governor-General in Council is glad to embrace this opportunity of again recognising with sympathy and appreciation the remarkable public spirit which has been displayed throughout the presidency in raising subscriptions for various humane objects, and especially the conspicuous zeal and self-sacrifice displayed by the Sholapur Relief Committee and their coadjutors of the Deccan Famine Relief Fund in Bombay.

16. The Government of India is now in possession of three independent estimates of the number of persons likely to be on the relief works on the 1st of March, 1st of May, and 1st of July. The first is an estimate submitted by the Bombay Government on the 30th of November last. It is in a monthly form, and, commencing with 200,000 as the average for December, gives 450,000 as the average of February, 750,000 as that of March, one million for April, and only 300,000 for July. These figures included charitable relief at 10 per cent. The second estimate is that of Sir Richard Temple in his minute of January 11th, and allows 540,000 for March 1st, 870,000 for the 1st of May, and 340,000 for the 1st of July. The last is that of the local officers throughout the country, which was made almost simultaneously with Sir Richard Temple's, and amounts to 677,500 for March 1st, 863,220 for May 1st, and 509,370 for July 1st. Sir Richard Temple is thus in accord with the local officers as regards May 1st, but anticipates lower numbers both before and after that date than they do. These startling discrepancies at once show the extreme difficulty of dealing with the subject, and* of being prepared, by a reserve of works to be started when indispensable but not otherwise, for any sudden access of distressed persons whom the exhaustion of private stocks or the failure of employment abroad may throw suddenly upon the hands of Government. His Excellency the Governor-General in Council is, however, glad to note that the number on the works on the latest date (February 9th) was only 249,158, and to augur from it that possibly all the estimates may alike be falsified in a manner equally relieving to public suffering and the public purse.

* sic orig.

17. In conclusion, his Excellency the Governor-General in Council has great satisfaction in recording that the reports now under consideration fully bear out and confirm the

Review of statistics regarding the distress in the Bombay Presidency.

testimony already borne by Sir Richard Temple to "the zeal and ability with which the famine is being combated by the local officers," and in "congratulating the Local Government on the manner in which the substantial safety of some five millions of people is being secured under circumstances of much danger."

Ordered, that copies of this Resolution be communicated to the Secretary of State for India, the Governments of Madras and Bombay, the Chief Commissioner of Mysore, and Sir Richard Temple, and that it be published in the "Gazette of India." In the event of any part of British India being at any future time threatened with scarcity, the Local Government should take measures for obtaining, at the earliest practicable date, information under the several heads comprised in statement A., with the addition of an account of the nature of the two next preceding seasons and harvests.

No. 108.

No. 115.

No. 222, dated 21st February 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

With reference to my telegram of yesterday,* and to paragraph 5 of my letter No. 124 of the 5th instant,† I have the honour to state that, after consulting the Government of Madras and Sir Richard Temple, his Excellency the Governor-General in Council has sanctioned the employment of famine relief labour in forming earth-works between Bellary and Hubli on the line of the proposed railway. These earth-works will be useful whenever circumstances may permit the railway to be constructed, but it is to be distinctly understood that the present permission in no way pledges the Imperial Government to the ultimate completion of the line.

2. His Excellency the Governor-General in Council considers that, for various reasons, the commencement of earth-work on the section between Hubli and Kirwuttee is at present undesirable.

3. Regarding the debit of the charge for compensation for land a further communication will be addressed to you hereafter.

4. Any communication which may be necessary in connexion with the carrying into effect of the permission now given should be addressed to the Government of India in the Public Works Department.

(Similar letter to Government of Madras, No. 223, dated 21st February 1877.)

No. 109.

No. 115.

No. 219, dated 21st February 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF MADRAS.

It was not thought necessary at the time when they were issued to address any special communication to the Government of Madras, in regard to the instructions whereby Sir Richard Temple was authorised, on the 16th ultimo, to inquire into the circumstances of the famine in the presidencies of Madras and Bombay, and to confer with the Governments of those two presidencies on the results of his inquiries.

2. The circumstances which induced the Government of India to depute Sir Richard Temple on his present mission were, in fact, well known to his Grace the Governor of Madras, with whom the Governor-General in Council had the great advantage of personally discussing the whole subject at Delhi on the occasion of the Imperial Assemblage. Sir Richard Temple's appointment was made in the hope that it would strengthen the hands of both Governments, that it would serve to clear up some points of importance in regard to which doubts had been felt, and that, by diminishing the necessity of frequent references to the Government of India, and preventing delay in the treatment of matters demanding immediate decision, it would confirm that accord and harmony of feeling

The circumstances of Sir R. Temple's mission to Madras explained.

Sanction given to commencement of earthwork of Bellary-Hubli Railway.

*Nos. 104. 105.

†No. 53.

which it will always be the anxious desire of his Excellency in Council to maintain between the Supreme and the Local Governments.

Sir R. Temple's mission to Madras explained.

3. Although the mission of Sir Richard Temple is still uncompleted, the Governor-General in Council thinks it right to delay no longer in expressing to the Government of Madras the satisfaction felt by his Excellency in the fulfilment of the hopes with which that mission was undertaken.

4. In conducting operations of so much difficulty and on so vast a scale for the relief of famine, differences of opinion will necessarily arise, and methods of action adopted with much consideration may sometimes prove mistaken. The Government of India not only claims for itself no exemption from error, but is conscious that, acting, as it must often do, with imperfect knowledge, it may be more liable to err in its appreciation of local circumstances than the officers who are acting on the spot.

5. The mission of Sir R. Temple, however, has already had this satisfactory result, that if any difference formerly existed between the views of the two Governments, none, so far as his Excellency in Council is aware, now remains. Sir R. Temple, in reporting to the Government of India the results of his observation, has expressed his opinion that throughout the Madras Presidency famine is successfully combated and starvation prevented, that the physical condition of the people is generally good, that relief works are everywhere open, that charitable arrangements are well organised, and that the operations of private traders for the supply of grain to the distressed districts are everywhere active and successful. Measures are at the same time being taken (and his Excellency in Council feels sure they will be persevered in), not only to encourage the efforts by confirming the confidence of private trade, but also to prevent needless expenditure of money, and restrict as closely as possible the grant of relief to those who actually require it.

6. The Governor-General in Council wishes to take this opportunity of gratefully acknowledging the zeal and humanity with which the Government of Madras and its officers are contending against famine, and furthermore of thanking them for the wise and conciliatory spirit in which all the suggestions of the Government of India and of Sir R. Temple have been received by them. The measures approved by the Government of Madras in consultation with Sir R. Temple are being carried into effect with highly satisfactory results; and his Excellency in Council trusts that the officers of the two Governments will always continue thus loyally and efficiently to co-operate with each other in the performance of the great and difficult duty that lies before them.

No. 110.

XLII.—MEMORANDUM by DR. R. HARVEY, on special duty, on the CONDITION and PROSPECTS of the PATTIKONDA TALUK of KURNOOL, as ascertained by SIR RICHARD TEMPLE on 20th February 1877

No. 147.

Adoni, 21st February 1877.

Sir Richard Temple arrived at Pattikonda from Auspri on the morning of 20th February, and was received by Mr. B. Subba Rao, tehsildar of the taluk, in the absence of Captain Browne, who was away in camp.

Pattikonda Taluk (Kurnool).

2. The Pattikonda taluk has an area of 1,071 square miles and a population of 173,118. It is situated in the south-west of the Kurnool district, and the soil is pretty evenly divided between red laterite and black cotton soil. The Hindri river, which rises near Maddikera and falls into the Tungabadra near Kurnool, flows through it and is fed by numerous small watercourses from hilly parts of the district. The population is almost wholly agricultural, but there are a good many weavers in some of the larger villages, the chief of which are Kodomuru (population 6,064), Maddikera (8,586), Piapali (5,076), and Pattikonda (4,383).

3. The chief product of the taluk is cholum (jowar), of which one crop is sown in the red soil in April and reaped in September; the other and later crop sown in the black soil in August is harvested in December and January. On the banks of the Hindri a certain amount of irrigation is effected by raising water from the river bed, but there are no regular irrigation channels from that river. A good many tanks are scattered over the taluk, but are now for the most part dry.

4. Both crops failed almost entirely last year, though some part of the early crop and

Taluk
(Kurnool).

a good deal of fodder was saved, and fair crops were secured here and there from the irrigated land above mentioned and near wells. The tehsildar estimates that the average out-turn did not exceed one-sixteenth of an average crop. The rains of the previous year, 1875, were unseasonable, a good many of the tanks did not properly fill, and the harvest yielded only about five-eighths of an ordinary crop.

5. Stocks of grain are believed to be low in consequence, but it is difficult to estimate their amount. Trade is very active, and all villages are reported to be fairly well supplied with imported grain, chiefly from the north. Considerable stocks are lying at Auspri ten miles distant, and Sir Richard noticed a long string of carts carrying grain to Pattikonda. The tehsildar believes that private trade will amply provide for all needs. Some 15,000 bags of Government grain are in store at Piapali, and it is intended to establish dépôts at Pattikonda and Devnakonda. The average price of cholum, which is the common food of the people, is nine seers of 84 tolaks per rupee. Second sort rice is now seven seers per rupee, but is little eaten.

6. Relief works were started early and all comers were admitted. In the beginning of January the numbers were 36,000, but since the introduction of task work and the process of discharging those who appeared able to support themselves for a time, they have gradually come down to 23,000. Wages are paid in cash at the rate of 2 annas for a man, 1 anna 4 pies for a woman, and 10 pies for a child; and the nominal task exacted is the breaking and stacking of five cubic yards of road metal per day by each gang of 50 persons. The Madras Government orders of 31st January have not yet been received, and the tehsildar is acting on local orders.

The works now in hand are as follows:—

1. A road from Pattikonda to Devnakonda, 12 miles, occupying 7,105 labourers.
2. A road from Yenigamari to Kurmoor, 30 miles, 6,209 labourers.
3. A road from Kurmoor to Venkatagiri, 15 miles, 6,766 labourers.
4. A road from Rampoor to Garladini, 10 miles, 2,612 labourers.
5. Repairs to the Bondimadugula tank, 50 labourers.
6. Repairs to Pendakallu tank, 24 labourers.

The numbers on No. 1 were 8,000 last week, but the tehsildar himself visited the gangs, and discharged nearly a thousand persons whom he considered on inquiry did not at present need Government aid.

All the gangs on this road (about 7,000 persons in all) were paraded for the inspection of Sir Richard, who spent almost the whole day in inquiring into the condition of the labourers, with a view to showing the tehsildar the principle on which the process of eliminating undeserving cases should be conducted. The great majority appeared to be really poor, and therefore deserving recipients of State charity, but there were some exceptions found in every gang. Several hundred cases were picked out and investigated, many persons were proved to be in a position to maintain themselves, many were set aside for further inquiry, and others were found to be really dependent on relief labour for subsistence. Some few cases were flagrant abuses of Government charity, some few were clear fraud, as the case of a ryot paying Rs. 200 of land revenue, who had been put on the lists by his son, who was the gang maistri.

7. There has been a considerable mortality among the cattle; the tehsildar gave it as his opinion that nearly 50 per cent. of the total number in the taluk had perished, but that the deaths have been chiefly confined to old and worn out beasts, who are left to pick up what scanty pasture they can from the burnt-up fields. Stored fodder is too valuable to be given to them, and is reserved for the better class of draught and plough cattle, which are still abundant and in fair condition, although a good many have died in some villages. Much jowar straw was saved from the early harvest, and it is expected that there will be sufficient fodder to supply the draught cattle.

8. Drinking water is still everywhere procurable. Some wells are dry, and the water in others is of bad quality, but wells are generally abundant, a good many new ones have been sunk, and water is near the surface in most parts of the taluk. No apprehensions of future failure are entertained.

9. The public health has on the whole been good since the beginning of the scarcity. There were a good many scattered cases of cholera in January, but no serious epidemic, and the disease has now subsided. Small-pox is prevalent in some villages but is not severe, and no cases were seen among the gangs examined by Sir Richard.

10. Crime has increased. Petty thefts are numerous, and 12 dacoities, chiefly grain robberies, have occurred since the beginning of the year.

11. On the whole, Sir Richard was of opinion—

That the great majority of the people were of the poorer classes and really in need of State aid.

That their physical condition was satisfactory.

But that about 10 per cent. were clearly and palpably in a position to maintain themselves for some time to come, without the assistance of Government; and that if task work could be fully enforced, or the gangs thoroughly examined by persons of sufficient local and personal knowledge of the people, a still further per-centage would be found in a similar position.

Further, that the tehsildar is a competent Native officer who has already done much in the direction of system and economy, and who, if judiciously instructed, may do still more to assist in carrying out the orders of Government.

Pattikonda
Taluk
Kurnool

No. 111.

No. 224, dated 22nd February 1877.

No. 115.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO
SIR R. TEMPLE.

I have the honour to request that you will be so good as to inform Sir Richard Temple that in accordance with the suggestion contained in his telegram of the 12th instant, as explained in yours of the 17th instant, the Madras and Bombay Governments have been authorised to construct the earth-works of the proposed railway between Hubli and Bellary, on the understanding that the Imperial Government is not thereby in any way pledged to the ultimate construction of the railway itself.

Hubli-
Bellary
Railway.

2. I am, however, to request the favour of further explanation of the exact meaning of the suggestion that the land taken up for the purpose should be charged to the Local Governments.

No. 112.

XLIII.—MEMORANDUM by DR. ROBERT HARVEY, on special duty, on the CONDITION and No. 147.
PROSPECTS of the ADONI TALUK of BELLARY as ascertained by Sir Richard Temple
on the 14th and 21st February 1877.

22nd February 1877.

Sir Richard Temple visited Adoni on the 14th and again on the 21st February. He met there Mr. Glenny, C.S., Sub-Collector of Gooty, Captain Hamilton, 4th Bengal Cavalry, Taluk Relief Officer, Mr. Oldham, Executive Officer in charge of relief works, and Mr. Pampabatti Rao, Tehsildar. On his first visit he found that the numbers had been very rapidly increasing, and that the orders for the new arrangements, confining relief to those actually in need, had just been received and were on the point of being carried out. He therefore contented himself with inspecting about 15,000 relief labourers on the works near Adoni and explaining to the local officers the views of Government, reserving full inspection and report till he could re-visit the taluk after the new system had been organised.

Adoni Taluk
(Bellary).

2. The taluk of Adoni is the most northerly taluk of the Bellary district, and has an area of 805 square miles. The population numbers 179,448, 12 per cent. of whom are Mahomedans. The rural population is chiefly agricultural, but there are a number of comparatively large towns in the taluk, and the urban population is largely made up of weavers, artisans of various classes, leather dresses, and other non-agricultural classes of low castes. The population of Mahomedans is very large in some of the towns (Adoni has 40 per cent.), and they are described as for the most poor and thriftless and badly off even in good years. The chief towns are Adoni (population 22,429), Yemigamir (6,243), Koshgi (5,463), Kavutal (3,650), Nagladini (2,134).

3. The taluk is bounded on the north by the Tungabadra river, from which the Rampur irrigation channel runs through the taluk for 10 miles and waters 965 acres of rice and ragi. This is the only irrigation work with the exception of a few small tanks, all of which failed to fill last year. A few fields near villages are irrigated from wells, and Mr. Glenny is of opinion that wells exist wherever there is room for them, and that cultivation from well irrigation (small though it is) has reached its limit. Black cotton soil prevails almost universally, but there is some red laterite here and there.

Adoni Taluk
(Bellary).

4. Considerable quantities of cotton are grown. It is sown in June and picked in February, but the staple product of the taluk is cholum, of which there is an early crop dependent on south-east and a late crop dependent on the north-west monsoon.

5. Both monsoons failed last year, and, except from the irrigated lands, almost no crop was secured. Many villages had absolutely nothing, and the total out-turn is estimated by Mr. Glenney at less than a one-anna crop. The harvest of 1875 yielded a 10 or 12-anna crop or from five-eighths to three-fourths of a good crop.

6. From personal inquiries, from inspection of the store pits, and the evidence of disinterested persons, Mr. Glenney thinks there are considerable stocks of grain still in the country, probably amounting to several months' supply; but these will not be produced until the holders see that next season's crops are safe and that danger is at an end. Private trade is most active and is expected to be quite adequate to meet all demands. Large quantities of grain are lying at Adoni and carts are going everywhere. The people live on cholum to the almost complete exclusion of rice. Prices were at one time as high as seven per rupee. On Sir Richard's first visit (14th February) cholum was $8\frac{1}{2}$ to $9\frac{1}{2}$, and several sort rice $5\frac{1}{2}$ to 7 seers, per rupee; but a considerable fall has occurred in the last few days, and the rates are now $11\frac{1}{2}$ and 8 or 9 seers, respectively. The Bellary seer weighs 2 lbs. 2 oz., so that $11\frac{1}{2}$ seers is about $23\frac{1}{2}$ lbs. per rupee or $1\frac{1}{2}$ lb. for an anna.

7. Relief works were opened about the middle of October. No applicant was refused, and the numbers gradually swelled to 88,000 or more than half the population of the taluk, which was the number on the lists at Sir Richard's first visit. Great exertions have been made by the local officers since that time; it has been discovered that extensive frauds have been practised by the gang-men; that about 5 per cent. of the numbers were men of straw, while many children had been classed as men. Numerous well-to-do people were discovered and turned off. The gangs have been sent to work some distance from their homes, and task work is being introduced. These measures have resulted in a reduction already estimated at 13,000 persons, some of whom were turned off; the remainder, probably the majority themselves, left the work as soon as task work and discipline were enforced. Very many of the gangs remain to be examined, as the process of inquiry, if conducted with sufficient care to avoid mistakes, is necessarily slow. The scale of task work to be exacted—it has as yet been little more than nominal—is 16 to 20 cubic yards of earth-work, or 12 to 16 of gravel, according to stiffness of soil and height of lift per day, from a gang of 50 persons. Some gangs are employed in metal breaking, and five cubic yards per gang is the tale demanded. No hammers have as yet been provided and stones are used instead. The Madras Government orders of 31st January were received last week, and No. 2 standard has been adopted, wages being now $1\frac{1}{2}$ anna, 1 anna, and 9 pies for men, women, and children, respectively.

8. The principal works in hand are,—

1. Railway feeder road from Nagladini to Adoni, 30 miles, in two divisions, employing 1,3228 and 19,517 labourers (on 10th February). This work is under the taluk officer with the tehsildar of Adoni and the deputy tehsildar of Yemigamir to assist him.
2. Madveram road, 27 miles, 13,776 labourers.
3. Alur road, 7 miles, 20,052 labourers.
4. Gooty road, 5 miles, 17,381 labourers.
5. Sirgapa road, 8 miles, 3,003 labourers.
6. Rampur Channel embankment, 1,766 labourers.

The figures are taken from the last return; but, as stated above, a total reduction, estimated at about 13,000, has since been effected chiefly from the gangs on the Alur and Gooty roads.

9. On the occasion of his first visit (February 14th) Sir Richard carefully inspected an aggregate of nearly 15,000 labourers collected from Adoni and the villages around. Many of them were poor people dependent for subsistence on their earnings at the works, but many belonged to a better class of people, who were presumably able to maintain themselves. A large per-centage were Mussulmans, many were weavers and artizans, and there were few persons of low caste. Their general physical condition was good, and very few showed any signs of being insufficiently nourished. On his second visit he saw about 10,000 persons belonging to gangs from the Yemigamir road. The great majority were of extremely low castes, madigars (chamars) and others, ranking even below pariahs, and regarded as so low and degraded that their better-born countrymen speak of them as persons "who cannot come in our mouths," whose very caste name cannot be mentioned. These are poor people chiefly leather dressers, and live to a considerable extent on the flesh of the cattle whose skins they dress. They

are extremely poor, always inured to hardship, and it is believed that very many of them have hitherto abstained from applying for relief under the mistaken notion that there could be no aid for such as they, and that even if Government would give it them the prejudices of their countrymen would prevent it reaching them. The contrast between these gangs and all those previously seen elsewhere was very great. Very many persons were considerably emaciated, and had evidently been insufficiently nourished all their lives; and a few only among them had the fine physique and blooming condition so frequently found in other gangs among the better castes. Sir Richard considers that they were by many degrees the worst he has yet seen, and he carefully explained to the native officials that no prejudices of race or caste, no amount of contempt, and no fear of contamination could justify them in neglecting any person however degraded; that they were expected to do their duty irrespective of persons, and that no such excuse or neglect of it would be accepted by Government, which would visit with exemplary punishment any person guilty of inhumanity to such people. The headmen of villages were warned that they must be specially careful in watching for and immediately relieving them, as it is among them that cases of starvation are most likely to occur.

10. The cattle have so far suffered comparatively little. A good many old ones have died, because the people will not feed such, but the draught cattle are in good case. There are considerable stores of fodder. Many valuable beasts have been sent away to the Nallamalli hills in the Eastern Ghâts, and there is still some pasture on the banks of the Tungabhadra. The brisk demand for carriage keeps the draught cattle constantly employed, and high prices enable their owners to buy fodder, so that no great loss is apprehended.

11. Water is still fairly abundant everywhere, and will not fail.

12. The public health has been and still is bad; cholera is extensively prevalent though not in a very fatal form, and bowel complaints and fevers are common. A severe epidemic of small-pox is raging in Adoni and some of the large villages; and Sir Richard observed very many cases among the Adoni gangs during his first visit. Arrangements are in train to isolate the cases in special sheds where the children may not be dangerous to their neighbours, and where gratuitous ration will be issued to the mothers who will stay to nurse them.

13. Crime increased remarkably during the earlier weeks of scarcity; dacoities of grain and thefts in standing crops were numerous, but since the few fields which yielded anything have been harvested, and it has become evident to the people that grain will not fail, it has remarkably diminished.

14. Sir Richard's impressions on the condition of the taluk were as follows:—

That the numbers are still abnormally high, but that, while such is the case and many people are being relieved who are not in need of it, there is reason to fear that others who do need are not found out and taken on the work soon enough. This, however, is now being remedied.

That the great majority of the labourers are in good case, but that some low-caste persons are in bad condition.

That special attention must be given to village inspection, with a view of picking up any such persons as have not yet been relieved.

That the various native officials will have to be carefully instructed to look after persons of low caste and not suffer them to drift into danger, and that the various European officers must see that they do this.

That the superior relief officers in the taluk are making most praiseworthy efforts to give effect loyally and fully to the orders of the Madras Government in the direction of system and economy.

That considerable success seems to have already attended their efforts, and that still further improvement is to be looked for.

No. 113.

XLIV.—MEMORANDUM by DR. HARVEY, on special duty, on the CONDITION of RELIEF GANGS at GOONDAKUL in the GOOTY TALUK of BELLARY as ascertained by Sir Richard Temple on 22nd February 1877. No. 147.

22nd February 1877.

Sir Richard Temple left Adoni by the morning train on the 22nd February, accompanied by Mr. Glenny, C.S., Sub-Collector of Gooty, and reached Goondakul at 9 A.M. All the relief labourers employed on the works within easy distance had been

Condition of
relief gangs
in Gooty
Taluk
(Bellary).

collected near the railway station, and he spent the greater part of the day in inspecting them, first going carefully down the lines of persons drawn out for inspection, pointing out those who seemed able to support themselves, and afterwards investigating the circumstances. About 4,500 persons were paraded. They were for the most part ryots and subordinate cultivators, weavers, and working men of the better caste and classes in admirable condition, and bearing no signs of ever having missed a meal. Here and there a few poor-looking specimens, generally of inferior social position, presented themselves, and the contrast between them and the greater majority of the persons present was pointed out to the Native officials, who could not fail to see it. Large numbers of the women belonged to respectable castes, and had come to the works to earn a little money, their husbands being employed at home or otherwise off the works. Some cases of cheating by gangmen were exposed, and many persons were shown to be in a position not to require aid from Government.

2. Sir Richard was astonished by the very marked contrast between these gangs and the gangs of low-caste workmen seen on his second visit to Adoni, and Mr. Glenney remarked that, as regards physical condition, they were the best gangs he had yet seen. There was no sign of suffering among them, and Sir Richard Temple thought that there could be no doubt whatever that very many of them had been admitted to the works much too soon, and would have maintained themselves without difficulty had the works not been open to receive them. He considered that many of them might now be discharged without the smallest danger of their suffering risk of starvation or even of distress.

No. 114.

Nos. 127.
147.

No. 3,540, dated Hyderabad Residency, 22nd February 1877.

From the FIRST ASSISTANT RESIDENT, Hyderabad, to the SECRETARY to SIR R. TEMPLE,
BART., K.C.S.I.

Migration
from Hyder-
abad to
British ter-
ritory and
vice versa.

I am directed to acknowledge your letter, No. 70, dated 17th instant, forwarding copy of a minute recorded by Sir R. Temple, regarding the reception of Mysore and Hyderabad labourers upon relief works in the Madras Presidency, and expressing his hope that the Resident will move the Minister to issue directions for the employment and retention within the Hyderabad districts of Nizam's subjects who may desire work.

2. The question thus brought forward has been the subject of frequent conversation and inquiry between Sir R. Meade and the Minister and officials of his Highness' Government for the last four months, and the Resident has every reason to believe that the orders passed by the Minister before he proceeded to Delhi, and also since his return to Hyderabad, have fairly provided for the employment on relief works of the suffering population of all the Hyderabad districts bordering the Madras Presidency that are affected by the famine.

3. At first, no doubt, many Hyderabad people crossed the frontier and presented themselves at the British relief works; but, so far as Sir R. Meade has been able to ascertain, a large proportion of these persons subsequently returned to the Nizam's limits and obtained employment on the works opened therein.

4. On the other hand, considerable numbers of men and cattle in search of the means of subsistence have from time to time come into Hyderabad from the British districts, and within the last fortnight the Minister has brought to the Resident's notice that there had been recently a large arrival of both in the Raichore district.

Sir R. Meade has been further informed by the officers of the Nizam's Public Works Department employed on relief works, that, latterly, many labourers from the British districts have made their appearance on those works, and been provided for on them.

5. It is, however, admitted that many of the Hyderabad distressed poor, who left their homes when the pressure began to be first seriously felt, have not returned, and it is not known what has become of them.

6. The Nizam's Government has not, that the Resident is aware of, hitherto taken any steps to prevent sufferers from the famine in the British districts entering its territory as already described in search of subsistence.

7. The Nizam's officials were at first disposed to effect the expulsion of any bodies of such persons that might arrive within their limits, on the ground that their presence would add to the existing difficulties, as well as be dangerous to the peace of the country; but Sir R. Meade urged that on no account should the migration of these

people be obstructed or interfered with so long as they committed no offence, and did not assemble in bands dangerous to the public peace, and the Minister entirely concurred in this view and issued orders accordingly.

8. It is well known that the practice under Native rule has always been for the poorer classes to abandon their homes in times of drought and famine, and to migrate to other parts of the country free from such a calamity.

9. Sir R. Meade's personal experience of the great value of this practice as a means of reducing the number of sufferers in a stricken district, and especially in localities to which food could hardly be transported, leads him to think that the door to its continuance along the Hyderabad and Madras frontier should not be closed by the adoption of any strict rule on either side of the frontier for the retention of the suffering poor within their own limits.

10. It has suggested itself to him, in considering the request contained in your letter under reply, that as a large portion of the Hyderabad territory is fairly off both as regards food for man and forage for cattle, it is probable that the migration towards it from the Madras and Bombay famine districts will continue, and that, in the interests of these districts and of the British Government, it should be encouraged as much as possible; and as any request to his Highness' Government to prevent its subjects who are in search of work or the means of subsistence from crossing over to seek the same on the British relief works, would probably be understood to warrant its preventing the migration of sufferers from the British districts into Hyderabad, the Resident proposes to limit his action on your present communication to urging his Highness' Government to increased effort to provide fully, in the matter of relief works, for the employment of the poor in the districts adjoining Kurnool and Bellary, and to instruct its local officials to use their influence to induce the people of those districts in want of work to take it on the relief works so provided for them.

11. The Resident trusts that Sir R. Temple will concur in the course thus proposed to be taken in this matter.

Proposed measure to meet immigration.

No. 115.

No. 12 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce to the SECRETARY OF STATE FOR INDIA.

No. 201.

Calcutta, February 23, 1877.

With this Despatch we enclose various additional minutes and memoranda by Sir Richard Temple, relating to the famine in the presidencies of Madras and Bombay, and in Mysore. The subjects dealt with in these papers are—

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| 1st. The organisation and supervision of measures for village relief. | Nos. 63. 64. |
| 2nd. The concentration of relief labour on large public works in the Madras Presidency. | 72. |
| 3rd. The estimated loss of revenue in the two presidencies. | No. 68. |
| 4th. Certain questions relating to the purchase and transport of grain in Madras. | Nos. 79. 80. |
| 5th. The condition of subdivisions of the Cuddapah and Bellary districts. | Nos. 81. 82. |
| 6th. The commencement of the projected railway from Bellary to Hubli as a relief work. | Nos. 57. 70. |
| 7th. The distress in Mysore. | Nos. 73-6. |
| 8th. The question of receiving labourers from Mysore and the Nizam's territories on relief works in the Madras Presidency. | 98. 104-5. |
| 9th. The arrangements made for facilitating traffic between the Great Indian Peninsula Railway and the Madras Railway. | 108. |
| 10th. The doubling of the line of railway from Ambatoor near Madras to Arconum. | Nos. 84-88. |
| | No. 95. |
| | Nos. 89. 90. |
| | No. 96. |

A few other papers on subjects which have come under our consideration during the past week are also forwarded, including a Resolution* in which we have briefly reviewed the Taluka reports† received from Bombay in reply to the call made in our letter of the 30th October last.

* No. 107.
† No. 106.

2. The necessity of organising a system under which individual cases of destitution, either in villages or on the highways, may be searched out and promptly dealt with, is clearly stated in Sir Richard Temple's minute of the 8th instant. He there points out the facilities which exist under the land revenue system of the Madras Presidency (and his suggestions on this point are equally applicable to Bombay) for the application of such a system of relief. "It may happen," he observes, "probably it will happen,"

Necessity for home relief.

that "however searching, comprehensive, and far-reaching the relief measures may be," "individuals or particular families may yet be suffering in silence, may escape observation, and may compose themselves quietly for death without complaining to any one." Such cases, he states, did occur in the famine in Behar, and some such cases have occurred at the outset of the present distress in Madras. They will only be scattered instances where persons from social prejudices, or from infirmity, or from fatalism or other inexplicable reason, do not apply for relief, and the only remedy is constant supervision of every village and of every highway in the distressed districts. The necessary organisation exists in the village headman, Revenue Inspector and Tahsildar, working under the orders of the Assistant Collector or Deputy Collector in charge of the division, and in the police, to meet the cases of travellers dying from starvation on the roads. In the existence of this organisation, Madras, Bombay, and Mysore have, as Sir Richard Temple observes, a great advantage over Behar, where a special organisation had to be summarily organised for the occasion.

Difficulty
in devising
large works
for relief
purposes in
Madras pre-
sidency.

3. In our Despatch of the 9th instant (paragraph 6) we remarked that we had reason to believe that difficulty had been experienced in devising large works, suitable for relief purposes, in the Madras Presidency. This subject is discussed in Sir Richard Temple's minute of the 10th instant. It will be seen that the only work of any considerable magnitude which he has been able to suggest, in addition to the East Coast Canal and the Junction Canal at Madras, now, it is believed, in course of construction, are a Railway from Bellary towards Dharwar and the western coast, and an embankment in the Cuddapah district to protect the railway from the Pennair River. Since his minute was written, Sir Richard Temple has met the Governor of Madras and the Consulting railway Engineers of the Bombay and Madras Governments at Bellary, and in concurrence with his Grace has recommended that the earth-work of the railway should be commenced as a relief work from Bellary to Hubli in the Dharwar district. The Government of Bombay had previously recommended the commencement of this work as a means of affording employment to the distressed poor in the Southern Mahratta Country. The recommendation now made has been sanctioned on the understanding that the Government of India are not pledged to the ultimate completion of the railway. Sir Richard Temple's minute on this subject of the 17th instant, which explains at length the grounds of the recommendation made in his telegram of the 12th, has only just reached us. We shall notice it more fully in next week's Despatch. The section on which work is to be commenced is, as your Lordship is aware, a portion of the line from Bellary to Karwar, which was projected some years ago. It will also serve to connect a line from the Portuguese port of Goa to Hubli with the Madras Railway at Bellary, which has recently formed the subject of correspondence between the Government of Portugal and Her Majesty's Government, should that line be eventually carried out.

Repair of
irrigation
tanks suit-
able for
relief.

4. In more than one of the Minutes, herewith enclosed, Sir Richard Temple has suggested the repair and improvement of irrigation tanks, as a very suitable and valuable means of providing labour for those in need of relief. His attention appears to have been specially attracted to this description of work on the occasion of his visit to Mysore, where the relief works in progress are mainly tanks. It appears from an interesting Memorandum by Sir Richard Temple's Secretary, Mr. Bernard, on the Mysore district of Kolar, to which we would invite the attention of your Lordship, that out of 382 works proposed for the relief of distress in that district, all except two were tanks or irrigation works of some kind. The province of Mysore is thickly studded with irrigation tanks most of them of moderate size, and many of them in need of repair or improvement. The same may be said of many districts in the Madras Presidency, and especially of the southern portion of the Cuddapah district, which, situated on the level of the Mysore plateau, contains numerous works of this character. We trust that the Madras Government will find themselves in a position to adopt Sir Richard Temple's recommendations on this point, and that the want of concert between the Civil and Public Works Departments, to which allusion is made in one of these minutes as well as in a former minute, but which does not appear to be attributable to the local officers, may be overcome.

5. There would seem to have been some delay in communicating to the subordinate district officers the orders passed by the Madras Government on the 31st January for restricting expenditure on relief works. The Sub-Collector of Cuddapah had not received them on the 6th instant, and on the 11th instant they had not reached the Sub-Collector of Bellary. In the Cuddapah Sub-Collector's division the labourers were still paid grain wages, and the gangs inspected by Sir Richard Temple in that division contained persons who, the Sub-Collector admitted, could safely be dismissed from the works. The number receiving relief wages had, however, fallen from 108,000, the number on the works in the

division at the time of Sir Richard Temple's first visit to the district, to 90,000, partly owing to the elimination from the relief gangs of persons not in absolute need, and partly owing to the prevalence of cholera, which had led to the dispersion of certain gangs. In the division of the Sub-Collector of Bellary, cash payments had been substituted for grain wages and task-work had been introduced. The Sub-Collector on his own responsibility had begun to weed out his labourers and to turn off people who could manage for themselves. Cholera had dispersed some of the gangs, and some 30,000 persons had struck work owing to the introduction of task-work. From all these causes the number on the relief works had fallen from 88,000 to 30,000. The number nominally receiving gratuitous relief had also fallen from 33,000 in the first week of January to 8,000 in the first week of February. In the matter of gratuitous relief there had been a good deal of speculation. It had been discovered that some thousands of the names on the charitable relief returns, were fictitious. These irregularities, however, had been checked and punished, and the persons needing charitable relief were being gathered into relief camps.

6. The latest intelligence which we have received regarding the relief operations in Madras is contained in the following telegram from Sir Richard Temple, which reached us yesterday :—

"During past week I have been examining relief operations, interior of Bellary district, and part of Kurnool. Great improvement effected by local authorities in restricting relief to those who really need it. Numbers on relief works much reduced, and fresh admissions generally checked, but many persons are still being relieved without actual necessity, and fresh admissions not systematically arranged. Some demoralisation results, together with some malpractices and abuses. I am pressing this on local officers. The Government orders for reduction of relief wages have not yet taken effect, consequent financial loss considerable, but I still hope to see effect given to the inspection village to village for discovering cases of special distress, originally ordered in general terms and partly carried out. Still further specific orders from Government are wanting. I am representing the matter to Government of Madras. Import of grain from Madras end of railway has fallen off. I am endeavouring to secure early arrival of borrowed engines. Import from northern end good. Prices cheapening. Other favourable points in my two previous bulletins regarding physical condition of people, activity of trade, and exertions of officers remain unchanged."

7. It will be gathered from this telegram, and from the remarks which we have extracted from Sir Richard Temple's minutes, that in some respects the measures which have been ordered by the Madras Government with a view to the avoidance of all needless expenditure have not as yet been fully carried out; but already there has been a great improvement, and we entertain no doubt whatever of the sincere desire of that Government to co-operate with us in this matter. According to the latest returns the number on the relief works in Madras had fallen from 876,206, the number for the previous week, to 767,281. We enclose a copy of a letter which we caused to be addressed to the Government of Madras on the 21st instant, conveying our acknowledgments of the zeal and humanity with which they and their officers are contending against the famine, and of the wise and conciliatory spirit in which they have accepted Sir Richard Temple's mission, and the various suggestions made by him. We have observed with deep concern the very unsatisfactory, and indeed alarming, condition of the public health in the town of Madras, which has been reported to your Lordship in the Despatch from the Madras Government under date the 10th instant. The state of things described in the report of the Sanitary Commissioner which accompanied that Despatch has added a heavy burthen to the weight of anxiety and responsibility which at the present juncture presses upon the Government of the Duke of Buckingham.

8. Your Lordship will have learnt from our previous Despatches that a considerable portion of the territories of his Highness the Maharaja of Mysore, which are at present and for many years past have been under British management, have suffered very severely from the drought which has afflicted the adjoining British districts. The area of Mysore is 27,097 square miles, and its population a little over 5,000,000. For administrative purposes it is divided into eight districts. In two of these districts, Hassan and Shimoga, which lie close to the Western Ghats, there was some rainfall, and there was a moderate harvest. In the district of Mysore, one of the largest in the province, part of which is irrigated by channels from the Cauvery River, the harvest was an average one; but over the remaining districts there was a grievous failure of rain. In this extensive tract, forming two-thirds of the province, nearly all the rain-fed tanks are dry, and the dry-crop cultivation, which depends entirely upon rain, has for the most part failed. Of the affected tracts, an area inhabited by about 2,000,000 of people must be held, in Sir Richard Temple's opinion, to be severely distressed. The crops of the

Mysore.
Area of
distress.
Commence-
ment and
progress.

The distress
in Mysore.

previous year (1875-76) were poor; but those of 1874-75 were full and good. Sir Richard Temple draws attention to the economy with which the relief operations have been conducted, and which, as he justly observes, is very creditable to the Chief Commissioner and his officers. In the beginning of January the number of persons on the relief works was 59,301, and the number in receipt of charitable relief 30,088. Sir Richard Temple was, on the whole, well satisfied with the character of the relief works in progress, and with the mode in which it is managed. As we have already observed, the relief works in Mysore are almost entirely irrigation tanks, and the work is paid for at task rates. All the work that is being done is good and useful work. On two works which Sir Richard Temple inspected near Bangalore, he "saw considerable numbers of persons" who appeared well able to take care of themselves without State aid, and none in a reduced physical condition; but among gangs in the interior of the Bangalore and Kolar districts he observed persons whose condition was much reduced. The result of his observations was, that so long as good and useful work on irrigation tanks is being done at piece-work rates, it may not be necessary to begin any large work (no single large relief work has yet been begun in Mysore), but that, if hereafter very large bodies of people should require employment, two projects, viz., the long projected railway from Bangalore to Mysore, and a reservoir in the Chitaldroog district, estimated to cost 15 lakhs of rupees (150,000*l.*), and to irrigate 50,000 acres, should be put in hand. Both these works are ready for immediate commencement should the necessity arise. The point, however, which appeared to Sir Richard Temple to demand the most immediate attention from the Mysore authorities, was the organisation of a system of village relief, to which we have referred in the earlier part of this Despatch. Orders have been issued on this subject by the Chief Commissioner.

9. We have already drawn your Lordship's attention to Mr. Bernard's memorandum on the Kolar district, which is administered by a Native Deputy Commissioner, B. Krishna Iyengár. All that is stated in this memorandum appears to us to reflect very great credit on the Deputy Commissioner, whose humane, but careful and discriminating management of the famine in his district is most praiseworthy. Krishna Iyengár is the only Native who has yet risen to the responsible post of Deputy Commissioner. He is evidently an efficient and useful officer, and with reference to the approaching transfer of the province to the direct management of the Mahárájá, we regard the success of this Native official as very satisfactory.

Bombay pre-
sidency.
Area of
distress.
Commence-
ment, pro-
gress, esti-
mated cost.

10. The returns submitted by the Government of Bombay in reply to our call of the 30th October last, which are reviewed in our proceedings of the 21st instant, contain a great deal of useful information regarding the condition of the various parts of the distressed districts in that presidency, and furnish ample evidence of the energy and ability with which the famine is being combated by the Bombay Government and its officers. The number of talukas and subdivisions of districts, of which particulars are given in these returns, is 93, covering an area of 54,355 square miles, and containing a population of 7,963,927. The area in which the crop saved is less than one-half of a full crop is 33,873 square miles, and the population 4,981,616. The returns of the crops saved show a more favourable condition of affairs than the estimate which was framed in November last. It was then estimated that more than half the crops would be saved in only 11 talukas. It is now found to be above that proportion in 24 talukas. The estimate of remissions of land revenue is also more favourable than it was in November. The remissions were then estimated at 66 lakhs of rupees, and later on the estimate of the Bombay Government was about 76½ lakhs. The estimate given in the present returns, which appears to be for the revenue year, which ends on July 31st, is Rs. 46,84,732, and this apparently may be regarded to be an outside estimate, judging from the language used by some of the local officers. Sir Richard Temple, however, in his minute of the 13th instant (enclosed in this Despatch) estimates the total loss of revenue at 54 lakhs. In the same minute Sir Richard Temple estimates the relief expenditure to be incurred in Bombay at 126 lakhs. The accuracy of this estimate in a great measure depends upon the number of persons whom it will be necessary to employ upon the relief works. We have now before us three estimates of the number of persons likely to be on the relief works on the 1st March, 1st May, and 1st July. The first is an estimate submitted by the Bombay Government on the 30th November last. It is in a monthly form, and commencing with 200,000 as the average for December gives 450,000 as the average of February, 750,000 as that of March, 1,000,000 for April, and only 300,000 for July. These figures included charitable relief at 10 per cent. The second estimate is that of Sir Richard Temple in his minute of January 11th, and allows 540,000 for March 1st, 870,000 for the 1st of May, and 340,000 for the 1st of July. The last is that of the local officers throughout the country, which was made

almost simultaneously with Sir Richard Temple's, and amounts to 677,500 for March 1st, 863,220 for May 1st, and 509,370 for July 1st. Sir Richard Temple is thus in accord with the local officers as regards May 1st, but anticipates lower numbers both before and after that date than they do. As we have observed in our Resolution, these startling discrepancies at once show the extreme difficulty of dealing with the subject, and the necessity of being prepared, by a reserve of works to be started when indispensable but not otherwise, for any sudden access of distressed persons whom the exhaustion of private stocks or the failure of employment abroad may throw suddenly upon the hands of Government. Adverting to the latest returns however (for the 16th instant), the number on the works was only 238,219, and we therefore see reason to hope that all the estimates will prove to be in excess of the actual numbers.

We have the honour to be, &c.

(Signed)

LYTTON.

ALEX. J. ARBUTHNOT.

J. STRACHEY.

No. 116.

No. 133.

Telegram, dated 23rd February 1877.

From REVENUE ADDITIONAL SECRETARY, Madras, to REVENUE ADDITIONAL SECRETARY, Calcutta.

Please inform Calcutta Chamber of Commerce that railway through rate for grain from Negapatam to Bangalore is equalised with rate from Madras to Bangalore. Port dues at Negapatam suspended in case of vessels importing grain equal quarter of whole cargo.

Reduction of railway rates Negapatam to Bangalore.

No. 117.

No. 147.

EXTRACT from the PROCEEDINGS of the GOVERNMENT of BOMBAY, Public Works Department,—No. 131E.-444 (Local), dated 23rd February 1877.

Read—A letter from the Collector and Political Agent, Sholapur, No. 811, dated 12th February 1877, with reference to Government Resolution No. 37A.-153 Local, dated 25th January 1877, forwards copy of a report on the purchase of grain in the Akalkot State, and observes that no harm can result from what has been done, as the State is so small and so near the large market of Sholapur and the railway. Adds that the trade of the country will not be affected, and the inhabitants of the State will probably get their grain a little cheaper.

State purchase of grain in Akalkot.

RESOLUTION.—The Collector and Political Agent should report whether the State cannot now withdraw from the purchase of grain, and leave the supply in the hands of the regular traders.

State should withdraw from transaction.

2. The State's transactions may be on a small scale, but they are entirely wrong in principle, and if it is not now too late, and if the ordinary retail dealers are prepared to take up and continue the business, no more purchases should be made by the State.

3. If the purchases of grain had been made in the adjoining local market of Sholapur, the arrangement would not have been so objectionable; but it appears that they were made in distant markets, such as Akola, in Berar, and no plan could have been adopted so likely to interrupt the regular flow of trade as that which has been pursued.

No. 118.

No. 133.

Telegram, dated 24th February 1877.

From SIR RICHARD TEMPLE, Tripetty, to REVENUE ADDITIONAL SECRETARY, Calcutta.

I yesterday received favourable accounts of coming spring crops from wells in most parts of Cuddapah district which mitigate anxiety.

Nos. 120.
147.

No. 119.

No. 82, dated Bellary, 24th February 1877.

From the SECRETARY to SIR RICHARD TEMPLE to the SECRETARY to the GOVERNMENT OF INDIA.

Assistance rendered by Great Indian Peninsula to Madras Railway.

By direction of Sir Richard Temple I have the honour to submit copy of a memorandum by Captain Bisset upon the improvements in the working of the grain traffic, with copy of a covering letter to the Madras Government.

2. The assistance given by the Great Indian Peninsula Railway Company in smoothing the difficulties and assisting the working of the Madras Railway Company is now most satisfactory.

No. 120.

No. 81, dated Bellary, 24th February 1877.

From the SECRETARY to SIR RICHARD TEMPLE, to the ADDITIONAL SECRETARY to the GOVERNMENT OF MADRAS.

On improvement of grain traffic from Raichore to ceded districts.

By direction of Sir Richard Temple, I have the honour to forward copy of a memorandum by Captain Bisset on the progress of arrangements for improving the grain traffic from Raichore into the ceded districts.

2. With reference to this memorandum, I am to suggest that, if his Grace the Governor in Council be pleased to permit, the Agent of the Madras Railway may be moved—

(a.) To increase the staff in the locomotive sheds, so that the engines of the Madras Railway Company, and also those lent to the Company, may be kept in first rate working order, and so that failures of engine may be either prevented or set right :

(b.) To improve and increase the telegraphic staff and also the station staff, so that telegraphic reports and orders about the movement of trains may be promptly transmitted by day and by night :

(c.) To expedite the completion of the crossing stations, especially that between Nunchirla and Auspri.

3. Sir Richard Temple understands that some of these matters, as well as the completion of arrangements for watering engines, are engaging the attention of the railway officials. At the same time he considers it desirable to lay his recommendation on the matter before the Government of Madras, so that the improvement which has been effected in the grain traffic may continue, and in order that full work may be got out of the additional engines when they arrive.

4. The need for strengthening the telegraphic staff and for improved arrangements for passing trains is very apparent. But Sir Richard Temple will abstain from expressing a confident opinion whether it would be advisable to extend the block system gradually over the whole of the length of the Madras Railway in the ceded districts.

No. 121.

XLIX.—MINUTE by SIR RICHARD TEMPLE, dated Tripetty, 24th February 1877.

Grain transactions of Madras Government.

In continuation of my minute of the 13th February, regarding the Government grain transaction in this presidency, I feel obliged to represent to the Government of Madras that there seems to have been some misapprehension, in the Bellary district at least, respecting the time when the arrangements ceased between Government and the firm of Messrs. Arbuthnot and Company.

2. It will be in the recollection of Government that the notification published on the 8th February set forth that these relations ceased on the 5th January.

3. Nevertheless, at Bellary the following circumstances occurred which showed that there must have been some misunderstanding on the subject. On the 12th January the Collector of Bellary bought on account of Government 10,000 bags of rice at Rs. 9-6 per bag from the firm of Harvey and Sabapathy. On the same day the Bellary agent of Messrs. Arbuthnot and Company called and asked the Collector why the transaction had been concluded without making reference to him as Government broker. And on that same day the Government of Madras telegraphed to the Collector for explanation why this particular transaction had been concluded without reference to the Government brokers.

Again, on the 29th January certain Bellary dealers tendered for the supply of 5,000 bags of rice to the Collector. And their tenders were on that day, with the samples, referred by the Collector to the Bellary agent of Messrs. Arbuthnot and Company for opinion. The agent, acting on behalf of his principals, gave an opinion on the samples. And it was not until the evening of the 29th of January that the Government officers at Bellary became aware that Messrs. Arbuthnot and Company were no longer Government brokers, and that it was no longer necessary to consult them regarding local purchases of grain.

4. It is probable that the importance of these circumstances has passed away, now that the cessation of the relations between the Government and the firm has been notified. But to prevent any possible misapprehension it has seemed to me desirable to state what I have learnt.

No. 122.

No. 147.

L.—MINUTE by SIR RICHARD TEMPLE, dated Tripetty, 24th February 1877.

In a minute dated 13th February I repeated my previous recommendation that a part only of the grain purchased by Government should be transported to places distant at least 60 miles from the railway, the residue being kept at Madras as a reserve. No definite reply has been received to this suggestion, which was laid before the Government of Madras, first on the 19th January, and afterwards on the 13th February.

Distribution of grain purchased by Madras Government.

2. I have now had an opportunity of conferring with Major Hicks, and I learn that about 15,000 tons of Government grain have already been delivered at depôts in the interior of the country; that to employ the contractors' carts, which he still retains, 4,000 bags of grain are required by him daily; that only 1,400 bags daily are now being despatched from Madras; that he is offering the use of his carts to local dealers at reduced rates of hire, but that as yet his arrangements are not sufficiently known in the interior to attract the village dealers.

3. It appears to me that the quantity (15,000 tons) already transported into the interior is quite enough for all the places that are likely to need such support. And the *26,000 tons remaining may safely be kept as reserve in Madras. But as Major Hicks contracted for the transport of at least 30,000 tons, out of which 15,000 tons have been delivered in the interior, it follows that there is spare carriage at his disposal for the residue, namely, 15,000 tons. Looking at all the circumstances of the case, seeing that the contracts have been made, and the carriage has been collected, I think that the carts employed by Major Hicks' agency had better be maintained under Government control, and not dispersed. And I recommend that these carts be let out to private traders if not wanted by Government.

*Note.

	Tons.
Madras Government purchases from Calcutta	- 30,000
Purchases in Madras by the Madras Government and its officers	- 11,000
	41,000
Already transported to depôts by Major Hicks	- 15,000
Residue which may safely be kept as reserve	- 26,000

4. If the Madras Government should accede to my view that the quantity (15,000 tons) of Government grain already delivered at depôts in the interior is quite enough for the wants of the country requiring such support, then it would be necessary for Major Hicks to take prompt steps, through the local revenue officers, to make his terms known to the petty traders of the interior, who do most of the business of carrying goods from the railway to rural markets of the country. As soon as the local traders can employ all his carts, Major Hicks would cease to receive any Government grain by railway and so the waggons now occupied by Government grain would be set free for private traders.

XLV.—MINUTE by Sir RICHARD TEMPLE, regarding person-by-person inspection of relief labourers. Tripetty, February 24, 1877.

Relief labourers inspected by Sir Richard Temple.

I desire to place on record a statement showing the approximate numbers of the relief labourers who have been carefully inspected person by person, either by me or by officers deputed by me for that purpose, with a brief general remark on the physical condition of each gang of labourers.

2. It will appear from the abstract annexed that about 97,350 relief labourers have thus been inspected, always in the presence of a local civil officer; and that of this number the physical condition of 50,700 may be described as having been good, of 29,850 as middling, and of 16,800 as indifferent. And of this total some three bodies of labourers, numbering about 1,700, were found to be on strike, *i.e.*, in a state of refusing to accept the terms of pay offered by Government for such work as they could be made to perform.

Importance of gang inspection.

3. It is my opinion that this inspection of relief labourers is a matter of great importance; by this I do not mean a cursory glance at great masses of persons, but a careful look along the lines of men, women, and children, individual by individual, drawn up and arranged by the orders of the gangmen or relief officer. In this way it is comparatively easy to detect the unfit recipients of relief, and to show the officers, by selecting specimens of the well-to-do and needy respectively, the principles which should guide them on their inspections.

4. This work of inspection of gangs of relief labourers was at first, I fear, altogether overlooked by the local officers, but now they are attending to it with their wonted zeal and efficiency.

STATEMENT showing Numbers of RELIEF LABOURERS inspected by Sir Richard Temple and Officers deputed by him.

Date of Inspection.	District.	Place.	Number.	Physical Condition.
14th January 1877	Kurnool	Head-quarters	2,000	Good.
15th "	"	"	2,500	Middling.
" "	"	Yeldoortee	1,500	Good.
17th "	Bellary	Head-quarters	3,500	Middling.
18th "	"	"	2,000	Good.
19th "	Cuddapa	"	1,500	Middling.
" "	"	Near head-quarters	1,000	Good.
20th "	North Arcot	Vellore	3,000	Indifferent.
23rd "	Tinnevely	Tuticorin	300	Good.
26th "	Madras	Head-quarters	500	Indifferent.
27th "	"	Red Hills	2,000	"
29th "	Chingleput	En route	500	Good.
" "	North Arcot	Raneepett	300	Indifferent.
30th "	"	Chittore	300	Good.
31st "	"	Palmanair	500	Middling.
1st February	"	Poonganoor	3,000	"
" "	Cuddapa	Madanpally	5,000	"
2nd "	"	"	2,000	Good.
5th "	Bangalore	Head-quarters	1,000	"
7th "	"	Dodabullabpore	1,000	Indifferent.
8th "	Kolar	Chikkabullabpore	500	Middling.
9th "	"	Buggopally	500	"
9th "	Bellary	Hindoopore	1,000	Good; on strike.
" "	"	Pennikonda	500	Middling.
10th "	"	Gootoor	500	Middling; on strike.
" "	"	En route to Anantipore	1,000	Good.
11th "	"	Anantipore	3,000	"
" "	"	En route to Gooty	1,500	"
12th "	"	Head-quarters	2,000	Middling.
14th "	"	Adoni	15,000	Good.
15th "	"	Byayanaigar	500	Middling.
17th "	"	"	2,000	"
" "	"	Hospett	1,000	Good.
18th "	"	Sundoor	3,000	Middling.
19th "	"	New head-quarters	500	Good.
20th "	Kurnool	Puttikonda	7,000	"

Statement showing Numbers of Relief Labourers inspected by Sir Richard Temple and Officers deputed by him—*continued.*

Date of Inspection.	District.	Place.	Number.	Physical Condition.
21st February 1877	Bellary	Adoni	10,000	Indifferent.
22nd " "	"	Goondakal	4,500	Good.
23rd " "	"	Gooty	150	Middling.
" " "	"	"	200	Middling; on strike.
" " "	Cuddapa	Head-quarters	1,000	Middling.
Inspected by C. Bernard, Esq., C.S.I., Secretary, on behalf of Sir Richard Temple.				
	Kolar	Head-quarters	100	Good.
Inspected by Mr. C. E. Buckland, Private Secretary, on behalf of Sir Richard Temple.				
20th February 1877	Bellary	Alur	5,500	Good.
21st and 22nd February 1877.	"	Tadputri	3,000	Middling.
Total			97,350	

ANALYSIS.

Physical Condition.

Good.	Middling.	Indifferent.
50,700	29,850	16,800
		On strike.
		1,700

No. 124.

No. 147.

XLVII.—MINUTE by SIR RICHARD TEMPLE, regarding the utilisation of the services of the Great Indian Peninsula Railway on the Madras line.

Tritany, 26th February 1877.

From the beginning of the present month (February) the Madras Railway has succeeded in carrying away promptly from Raichore all the grain waggons delivered there by the Great Indian Peninsula Railway. The success of the Madras Railway in these affairs is very satisfactory. The daily average of despatches southwards from Raichore has been 105 waggons (683 tons). Most of this grain has been cholum (jowaree), which is the ordinary food of the poor in the ceded districts. And this grain, which was quoted at 7 seers per rupee in December, is now selling at Adoni and Bellary for $11\frac{1}{2}$ and $10\frac{1}{2}$ seers per rupee. I learn that, though the grain block on the Great Indian Peninsula stations in Central India is being cleared, the trade is expected to increase, and that there are practically inexhaustible quantities of grain ready to be sent down if wanted. I trust, therefore, that the large imports from the north may continue, notwithstanding the fall in price throughout the ceded districts. And I am clear that efforts should not be relaxed in delivering as promptly as possible all the northern grain which may come through Raichore.

2. But at the other end of the railway, namely, at Madras itself, there is much cause for anxiety. At one time the grain despatches from Madras by railway towards the interior averaged 1,000 tons a day; and when I was at Madras, at the end of January, I understood that the Madras Railway could, if working full power, despatch 1,200 tons of grain a day. But during the last fortnight despatches of grain from Madras have hardly averaged 700 tons per diem. Dealers in the ceded districts are in much difficulty, because they cannot get up their grain from Madras and fulfil their engagements in the interior. No appreciable decrease of the great accumulations of grain on the Madras beach is being effected. Shipments of rice from beyond the sea are falling off.

3. I cannot doubt that the drought-stricken districts of Madras and Mysore require that the stream of grain imports into Madras should continue as long as the monsoon permits. And therefore I think that new efforts must be made to relieve the block at Madras, and so prepare the way for further shipments from Bengal and Burma.

4. At one time it was hoped that, by reducing charges on the Southern India Railway, a portion at least of the grain supply from Mysore and Coimbatore might come from the port of Negapatam. But inquiry has shown that the Negapatam route could hardly give any appreciable relief to Madras for the next six weeks, even if facilities for landing, warehousing, and despatching rice existed at Negapatam, which is not at present the case.

Railway grain traffic arrangements.

Anxiety on account of block on Madras Railway.

Engine stock
insufficient.

5. It was also thought that the 18 engines, which the Government of India has arranged to lend to the Madras Railway, would enable that Company to carry out its programme for working full power both at the Madras end and at the Raichore end. But the work of the last few weeks has broken down a number of the Madras Company's engines, and it now appears that the borrowed engines, when they arrive, can hardly do more than supply the place of the engines which have broken down.

6. In neither of these ways can such full relief be given as will enable the Madras Railway to do what the country absolutely requires, that is—(1) to despatch from 1,000 to 1,200 tons a day from Madras, and (2) to bring in from 700 to 1,000 tons from Raichore. This requirement is irrespective of the supply brought by the Beypore line to Coimbatore and Bangalore, which supply is comparatively inconsiderable, and must entirely cease when the monsoon closes the western ports early in May. Unless this requirement can be met, there is danger that the food-supply of the country may fall short.

Suggestion
to work
Raichore
section of
Madras line
through
agency of
Great Indian
Peninsula.

7. I see only one way by which the present difficulty can be met, and regular dispatches of grain into the interior of the Madras Presidency, both from the east (Madras) and from the west (Raichore), can be secured. And that is, by reviving a proposal, which was a one time under the consideration of the Government of Madras, for working the Raichore section of the Madras line by the rolling stock and through the agency of the Great Indian Peninsula Company. By this arrangement the Great Indian Peninsula engines and staff would work the traffic to Adoni, Gooty and Bellary, the principal marts to which northern grain is now being consigned. And the Madras Railway would be able to concentrate its efforts, its engines, and its staff, upon the work of carrying into the interior the great accumulations of rice now awaiting despatch from Madras.

8. I am now writing at a distance from Madras, and it may be that in some detail my understanding of the facts may be open to correction. But if the case is in the main as stated above, and if no other way of meeting the difficulty can be devised, then I earnestly commend to the consideration of the Government of Madras that the services of the Great Indian Peninsula Railway be utilised for the requirements of the ceded districts in the way now suggested. A similar proposal was, I understood, favourably received by his Grace the Governor at the time of the Raichore block at the end of January. The subsequent smooth working of the Raichore section caused the proposal to be for the time dropped. But now the serious block at the other end of the Madras line appears to me to dictate the revival of the proposal.

9. It is quite certain that a large and constant supply of grain is wanted in the famine-stricken districts; it is also certain that there are large quantities of grain ready to be sent into those tracts both from the north and from the east; it is only too probable that there will be serious danger to the country if a constant and full supply cannot be maintained; the Madras Railway (from no fault of its agents and officers, who are doing their very best) first failed to maintain the supply from the north, and have now failed to maintain the supply from the east. There is, in my judgment, now no alternative but that the Madras Railway should accept the aid of the Great Indian Peninsula Railway at the northern source of supply. And I believe that the Great Indian Peninsula Railway is quite ready to give the required aid.

10. If his Grace the Governor in Council should be pleased to accept the views expressed in this minute, then I think no time should be lost in arranging to give effect to his Grace's decision. I anticipate that the Government of India and the Government of Bombay would accept favourably any proposal of the kind that might be made by the Madras Government. And the preliminaries could probably be settled by a meeting of the authorities of the two railway companies at Raichore, in presence of the Consulting Engineers of the Madras and Bombay Governments. If the proposal now revived is to be carried out at all, it will be best for the country and for both the railway companies that it should be carried out at once.

No. 147.

No. 125.

XLVI.—MINUTE by SIR RICHARD TEMPLE, suggesting the issue of further orders to secure that cases of extreme distress may be searched out and relieved in every village of the more distressed districts.

Tripetty, 26th February 1877.

Necessity for
house-to-
house visita-
tion.

In my minute, dated Nundidroog, 8th February, I laid before the Government of Madras my views as to the need for fully utilising the existing organisation in the work of house-to-house visitation, so that all cases of dangerous distress may be searched out

and relieved. Since that date I have seen the Madras Government orders of the — February on the same subject. I have also visited the ceded districts, Cuddapah, North Arcot, and part of Kurnool, with the view of ascertaining how far systematic house-to-house visitation is being carried out, and how far the village headmen discharge the duty of searching out and bringing up every case of dangerous distress.

2. The orders of the Madras Government on this subject have, I believe, reached the village headmen; and Government officers, European and Native, are doing something in this direction. Still the fact remains that, up to the present time, the village headmen have brought forward only a very few cases of persons (in the many taluks I visited there were hardly a score of such cases altogether) who were in extreme need of relief. At the same time, in many of the relief labour gangs I found, side by side with hundreds or thousands of people not as yet in absolute need, a few persons in very poor physical condition, an inquiry into whose cases showed that they were the only bread-winners for whole families of infirm people. There is risk that the weaker members of families in such straits must sooner or later die, unless they are brought upon charitable relief. And there is always the fear that, if cases of this kind come to light, more (possibly worse) cases of the same kind remain undiscovered. And all this may occur side by side and simultaneously with the employment of great gangs of relief labourers whose numbers perhaps exceed the real dimensions of distress.

3. During my visits I have always drawn the attention of the relief officers in charge to the dangerous nature of such cases. And I have explained that the admission of thousands of comparatively well-to-do people to relief gangs without discrimination cannot relieve the few scores of really needy people who may be at home in their villages.

4. I would recommend that the existing orders of the Madras Government (which are doubtless excellent so far as they go) be further explained and enforced, and that a written (or printed) notice of his duties and responsibilities be sent to every village headman in the more distressed districts, that a written acknowledgment be obtained from him, and that a report be demanded of him of his having inspected every household in his village, and of his either having done the needful if he found any person in dangerous straits, or of his having found none such. The intentions of Government will then become really known, and supervising officers of all ranks will be able to enforce the real and careful discharge of their duties by the village officers. It is assumed that they have already been authorised to relieve temporarily any person in this condition at the Government expense. They, therefore, cannot have any motive for concealing the existence of any such case, if it exist. The reports of the village headmen will therefore be evidence of the best kind.

5. With regard to the disposal of necessitous people, when they are brought up to relief officers by the village headmen, I desire to bring to notice that, as yet, no relief camps on the Madras system have been formed in the ceded districts. Instead of the relief camp system, there are a number of relief houses (in one taluk as many as seven), at which out-door relief is given under the supervision of village headmen. It may be necessary hereafter, when the pressure on the people is greater, to have several places in each taluk for the distribution of out-door relief. But at present such relief is not required; it may lead to great peculation and waste, (for instance) such as occurred recently on a large scale at Hindupur in the Bellary district. And I would recommend that, for the present at any rate, the regular relief camp system, such as is enforced at Madras, should be adopted in the ceded districts. It is true that a considerable establishment is required, but if Native officers of the army are employed and existing buildings (such as chuttrums) utilised, the cost will not be excessive. And at any rate the expenditure will be less than under the plan of indiscriminate out door relief under village headmen. Every necessitous person brought up by a village headman would be taken to the nearest relief camp, would be tended and fed there, until he or she was able to do some light work.

I suggest that some further orders on the subject of village visitation and the duties of village headmen be issued and carefully enforced at an early date. Systematic house to house inquiry is the necessary complement of an economical relief-work system. Indeed, it is the necessary complement of any relief-work system. Even if 70 per cent. of the population of a severely distressed taluk were on the relief works, I should still fear that some cases of extreme and dangerous distress must be left at home in the villages, unless a house-to-house visitation were maintained in the villages.

7. It is clearly cheaper for the public treasury and better for the people that all real cases of extreme distress should be searched out and relieved, while admission to the relief works is allowed with discrimination, than that all comers should be admitted

indiscriminately to the relief works while extreme cases of dangerous distress are left unrelieved in the villages or on the highways. In the Madras Presidency discrimination is now generally exercised in admitting people to relief works; and I earnestly recommend that no pains be spared to secure the discovery and relief of extreme distress, such as must occur in outlying villages, with increased frequency as the season advances.

No. 133.

No. 126.

From ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA Department of Revenue, Agriculture, and Commerce, to the SECRETARY TO THE GOVERNMENT OF BOMBAY.

Calcutta, the 27th February 1877.

No. 77.

I am directed to acknowledge the receipt of your letter No. 91E.-325, dated 12th February 1877.

2. The first seven paragraphs do not appear to the Governor-General in Council to require particular notice. He regrets that his instructions to Sir Richard Temple in respect of the necessity of preventing, to the utmost of our power, the loss of life from starvation, should not have been correctly understood by the Government of Bombay; and he would regret it the more if, as the Government of Bombay appears to think, the misunderstanding arose from some obscurity of expression, or inconsistency in the language which was used. It may, however, be observed that the interpretation placed upon the instructions by Sir Richard Temple to whom they were addressed has been from the first in complete accordance with the intentions of the Government of India; and his Excellency in Council fails to perceive the obscurity by which the Government of Bombay thinks that it has been misled. These, however, are matters of little practical importance, and as the Governor-General in Council has never attached any blame to the Government of Bombay for the misapprehension which has arisen, it is needless to continue what would be a merely verbal discussion.

3. The 8th and 9th paragraphs of your letter refer to a more important and practical question. It appears that the Government of Bombay has most wisely determined to take active measures for carrying out the decision that relief shall be given to those persons only who require it; that certain reductions in the amount of relief wages have been made, and orders regarding the exaction of moderate tasks on relief works have been issued. The result has been a strike among the labourers, who, it is presumed, prefer to obtain good wages for doing little or nothing, to obtaining reduced wages and having real work to perform. Large numbers of people have left the works; "they appear to be acting in bodies, and in concert, and the fear is that before the majority, who are comparatively strong, are brought to reason, some of the weakly will be reduced to a condition of great prostration. They wander about and may die out of reach of assistance."

4. The Government of Bombay wishes to know what, in the opinion of this Government, ought to be done under these circumstances, and it is understood that while the determination is being strictly adhered to that the orders which were given shall be enforced, measures are at the same time being taken to carry out the injunction that "no one shall die of starvation if it be in the power of the Government to prevent it."

5. You have already been informed by telegraph that the action of the Government of Bombay is entirely approved by the Governor-General in Council. The Government of Bombay may confidently rely on the support of the Government of India in its refusal to yield to the demands that have been made, and in its determination to introduce a more satisfactory system. At the same time the change must be carried out with care and caution, and his Excellency in Council has no doubt that this is being done. The most efficient measures that are practicable should be taken to guard against the danger pointed out in your letter, and to give relief in each individual case in which it is necessary. When a man is obviously in danger of dying from starvation, it is evident that we cannot refuse to save him because he has been misled into joining a strike, or has neglected to comply with certain orders or conditions. If, however, after all practicable efforts have been made, the case anticipated as possible by the Government of Bombay should occur, and some of the more weakly should "wander about and die out of reach of assistance," the misfortune will be much regretted, but it will throw no discredit on the Government or its officers. In carrying out the humane policy which has been adopted, the Government does not pretend that it can guard against every one of the numerous risks to life which arise in time of famine, or that it can save every one from the consequences of his own ignorance or folly.

The interpretation put upon instructions of Government of India to Sir Richard Temple for the preservation of life.

As to dealing with those who refuse to work on reduced wage.

No. 12,053G.-239, dated Bangalore, 27th February 1877.

ORDER by the CHIEF COMMISSIONER of Mysore.

Order.—The Commissioner of the Nundydroog division reports* that the people of the Hindupur and Madaksira taluks in the Bellary district are entering the Maddagiri taluk of the Tunkur district in large numbers to seek relief on works and at kitchens, alleging that the works on the other side of the frontier have been stopped, and the gratuitous distribution of food curtailed.

* No. 103.
Measures to prevent people leaving Bellary district for Mysore.

2. The Chief Commissioner apprehends that this influx is the immediate effect of the measures recently taken in the Madras districts to diminish the scale of wages and to economise expenditure on gratuitous relief.

3. Mr. Saunders has no reason to believe but that the provision made by the Madras authorities for the subsistence of their poor is fully adequate, and that the immigration is due to the expectation of these people that they will obtain more liberal treatment on this side.

4. To obviate this the Chief Commissioner has directed that the scale of daily-wage rates on special relief works shall be assimilated to that previously prescribed by the Madras Government, and that all able-bodied persons shall be relegated to the works proceeding under the officers of the Public Works Department. It will be necessary that the district officers and others in charge of relief operations, while abstaining from any such measure as rejecting distressed persons from our relief works, should see that the orders above adverted to are strictly carried out.

5. As regards individuals of the class referred to, who are in a starving condition, the needful help must be afforded at the relief kitchens, and efforts should be made to send them back to their homes.

6. The Deputy Commissioners of the border districts should, as a matter of statistics, have the numbers of foreign labourers and recipients of gratuitous relief registered and separately returned in the weekly statements to be hereafter submitted by Amildars.

Ordered.—That a copy of these proceedings be communicated to the Government of Madras.

XLVIII.—MINUTE by SIR RICHARD TEMPLE about drafting off relief labourers from the neighbouring districts to the East Coast Navigation Canal.

Nellore, 28th February 1877.

Having visited the East Coast Canal at Kurotoor, on the seaside opposite Nellore, in company with Mr. Sharp, the Acting Collector, and Mr. O'Shaughnessy, District Engineer, and having inspected 8,000 labourers now employed on the works, I desire to record the following remarks:—

East Coast Navigation Canal.

2. This excellent navigation canal, passing through the whole length of the Nellore district, connects the delta of the Kistna River with Madras, and opens out a large field for inland trade between the presidency and some of the richest agricultural districts of the interior.

3. Before the present scarcity commenced this canal was open from Madras to Kistnapatam, at the mouth of the Kundalairoo River in the Nellore district, a distance of 95 miles: Above Kistnapatam northwards, in the direction of the Kistna district, a distance of 105 miles, some work was in progress. Since the commencement of the scarcity this work has been vigorously prosecuted over the whole of this above length of 105 miles. Some 30,000 persons of both sexes are now employed. Of these, some are professional labourers, regularly employed before the commencement of the scarcity; others have been drafted on to the canal from the district relief works of Nellore; others again have been sent as relief labourers from the ceded districts and Kurnool. Mr. O'Shaughnessy informs me that he can with advantage employ 90,000 able-bodied persons of both sexes; if he shall obtain this full number, he can excavate the canal completely up to its terminus at the Kistna by July next; the work consisting of earth excavation, the very work best suited for relief labour. He has now, as just seen, only 30,000 labourers, leaving 60,000 to be yet made up out of the 90,000 full complement required. He has professional supervision available; he has an established task-work system;

Employs 30,000 persons;

and could employ 60,000 more.

and everything that can be needed in the way of sheds, huts, hospital accommodation, and the like. The situation is remarkably salubrious, being on the very margin of the sea, and there is good fresh water close to the surface.

4. It seems to me that here is the fairest possible opportunity for employing relief labour from the Nellore district, and from the neighbouring districts, in a proper and regular manner. But the month of February is over, and only one-third of the desired complement of labourers has been made up. It seems to me that strenuous efforts ought to be immediately made for making up that complement to its full strength.

5. The Government of Madras have, as I understand, issued repeated injunctions to the district officers to send relief labourers to this canal. This is, I know, an object which the Government have much at heart. Indeed, if the canal be not now excavated as a relief work, while money for this purpose is available, there will be financial difficulty hereafter in finding money for it. This is another reason for not allowing the present opportunity to slip away.

6. In the Nellore district itself, comparatively near to the canal, there are upwards of 50,000 persons working on relief labour on district roads and other petty works. Of these many are unfit for regular task-work on the canal, but many, on the other hand, are quite fit. Surely these latter might be drafted off at once from the district works to the canal. The Collector of Nellore appears to have understood at first that only persons from the ceded districts were to be employed on the canal, so he did not take any particular steps to send people there. He, however, has recently issued orders that all the able-bodied persons on his relief works shall be drafted on to the canal, and about 1,000 have been so sent. The process of drafting and despatching these people seem to be tardy at first. Doubtless the people are unwilling to go; the attractions of relief works close at their own doors prove so great, and the Native officials are apt to be too yielding in such a case. That is all the greater reason why efforts should be made by the European officers to ensure the people being promptly sent; when, on being ordered to go to the canal they attempt to strike, as I see they are attempting in some places, then firmness and patience will be needed.

The Collector informs me that he expects to gather together 20,000 able-bodied persons of both sexes from among his relief gangs, which certainly are able to furnish that number for the canal. He probably will not be able to do more; if he succeed in effecting even as much as this, we may be content to accept that result. At all events he would do well to expedite the matter with all his might, looking to its importance in so many ways. And this he informs me that he is doing. Indeed steps are, as I see, being taken. But on the assumption that he does manage to send 20,000 persons, that number added to the already existing 30,000 would make up only 50,000; leaving 40,000 to be made up out of the required complement of 90,000.

7. It is therefore clear that 40,000 able-bodied persons ought to be sent from the ceded districts and Kurnool as soon as possible, in accordance with the policy already laid down by the Madras Government. As yet the numbers sent from those districts have been very small. The reason, as I understand, is this, that volunteers only have been called for from the relief gangs in those districts, and so long as the men can get easy work at their own doors (as they actually can) they will not volunteer to go to a distant district for harder work. But the proper plan would be for the relief officers to select persons, able-bodied and otherwise fitted, from every relief gang, to be ordered to proceed to the canal with an intimation that they will be turned off relief works in the event of their refusing to go. Having recently inspected so many of those gangs, I can affirm that there are many thousands of persons thus qualified who can go to the canal, and will go, if cautioned by the fear of dismissal in event of refusing, but not otherwise. The public interests seem to demand that a trial should be made in this direction; some 15,000 might thus be called for from the Bellary district, and some 15,000 from Kurnool, the necessary 10,000 (to make up the 40,000) could be called for from Cuddapah and North Arcot.

No. 147.

No. 129.

No. 64, dated Hyderabad, 1st March 1877.

From the FIRST ASSISTANT RESIDENT, Hyderabad, to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

No. 114.

I am directed to forward, for the information of his Excellency the Viceroy and Governor-General in Council, copy of a letter addressed by order of the Resident to the Honourable Sir Richard Temple's Secretary with reference to a minute recorded by his Honour on the subject of the retention of his Highness the Nizam's subjects on relief

works within the Hyderabad territory during the present famine in some of his Highness' frontier districts and those of the Madras Presidency adjoining them.

Relief mea-
sures in
Hyderabad.

2. Sir Richard Meade had hoped ere this to have laid before Government a full report of the state of the Hyderabad districts which are affected by the famine and the arrangements made in them for the relief of the people, but he has found it impossible to get as yet from his Highness' Government the full statistical and other information required for its preparation, though such was promised some weeks ago.

3. The Resident has, however, been in constant communication with the Minister on the general question of the famine in his Highness' territory, and has no reason to doubt that the measures taken by the Government to meet the requirements of the calamity have been judicious and well-considered and suited to the condition of the people and the necessities of the occasion; and this being the case, he has thought it unadvisable to press the Minister for the prompt submission of information that would probably take some time to collect and prepare.

4. At an interview between the Minister and Sir Richard Meade yesterday, however, the former stated that the required information was now nearly complete and should be forwarded immediately.

No. 130.

Nos. 160.
213.

No. 32, dated Camp Chingleput, 1st March 1877.

From the COLLECTOR OF CHINGLEPUT DISTRICT to the SECRETARY TO SIR RICHARD TEMPLE.

In the evening papers of the 22nd ultimo I observed the following passage in an extract from a report of the Government of India to the India Office, dated the 16th idem:—

Land revenue
remissions.

“We do not overlook the statement which appears to have been made to Sir Richard Temple by the Collector of Chingleput, and to which we have already alluded, that much of the arrears due on the dry crop lands may be realised next year if the seasons are favourable.”

I made no such statement to Sir Richard Temple, and I am unable to conjecture on what words of mine his misapprehension, for such it is, was based. The idea of suspending collections of dry assessment till next year was never entertained by me, and I have already strongly recommended to the Board the absolute *remission* this season of all assessment for dry lands, left waste, or on which the crops have withered.

No. 131.

Nos. 142.
221.

No. 767, dated Fort St. George, 1st March 1877.

From the CHIEF SECRETARY TO THE GOVERNMENT OF MADRAS to the CHIEF COMMISSIONER OF MYSORE.

I am directed by his Grace the Governor in Council to acknowledge receipt of your reply dated 15th* to my letter of 10th February, No. 508,† and to observe that it seems more essential to consider how the large numbers of Mysore folk now in this presidency shall be kept from starvation than to discuss conjectural causes which may have led to their increase by some few thousands, whether laxity on the part of any particular officer on some portion of an extended frontier, or the desire of the people themselves to evade the pressure of the Mysore revenue officials, or to escape the pangs of hunger in the prevailing scarcity.

Mysore
labourers in
British terri-
tory.

* No. 91.

† No. 69.

The fact remains that there are at the present time in this presidency a very large number of Mysore labourers dependent on others for means of livelihood.

2. Of those in the Wynad a large proportion are doubtless the ordinary plantation labour supply of the year, but the demand for these was less and ceased earlier than usual owing to the season, while a large and extraordinary number of men, women, and children have flocked into the district in the hopes of finding a demand for labour which does not exist, and a similar influx has taken place at various other points on the frontier.

3. That many of those in the Wynad are in distress is testified from personal observation by Colonel Kennedy, the experienced District Engineer, writing on 30th January.

4. That some at least of those who found their way to relief houses in the Bellary district were in sore need is shown by the annexed extracts from reports by the Acting Head Assistant Collector.

5. This Government are determined that, so far as in them lies, loss of life from starvation shall be prevented in the territory under their administration, and have therefore directed that all in destitution shall be relieved alike. But though this will provide

Mysore
Government
should con-
tribute to
their main-
tenance.

for immediate need, the continued maintenance of people from other territory is a different matter. This Government ought not to bear the charge, and the Governor in Council considers that there should be no difficulty in the Mysore Government, administered by British officers directly under the Supreme Government, consenting to contribute towards the maintenance of its famine-stricken subjects, although in British territory. The measure would be advantageous both to the people and to the State, and would be no more than equitable, for though Madras in ordinary times benefits by the supply of labour to the Wynad, Mysore benefits also by the employment of large numbers of her population, and by their savings which they annually take back with them.

6. His Grace the Governor in Council still hopes that this system of contribution may be arranged, for the constant and unregulated movement hither and thither of large masses of people already weakened by insufficient or inferior food, in times of scarcity and of great sickness, is highly undesirable, and cannot but entail much additional suffering as well as increased risk of spreading disease.

7. I am directed to ask your early consideration of this important matter, as well as a reply to the request of this Government in my former letter, that an officer may be deputed from Mysore to supervise the return of the people to their own country.

8. I am, in conclusion, to point out that it is very desirable that important notices such as those alluded to in the letter under reply should be communicated to this Government direct. The notice of relief works established in Mysore seems to have been sent to a private association in the Wynad and to the Commissioner of the Nilgiris, but it was not sent to this Government, nor to the Collectors of Malabar (which includes the Wynad), of Bellary, Cuddapah, or other districts bordering on Mysore.

No. 181.

No. 132.

LX.—NOTE by CAPTAIN W. S. S. BISSET, R.E., on the probabilities of landing GRAIN at NEGAPATAM, and delivering it at ERODE JUNCTION for Conveyance to BANGALORE.

Bangalore, 2nd March 1877.

Negapatam
port.

At Negapatam cargo is unloaded, not on the beach as at Madras, but at a quay on the banks of a river, at the entrance to which there is a bar, which for two hours out of six is impassable to the heavy boats in ordinary use. The quay, or river bank, where goods are ordinarily landed, is within 400 yards of the railway station. From the difficulties at the bar, and from the distance at which the ships lie, the boats which draw three feet of water with their ordinary load of four tons are prevented from making more than one trip a day, but they occasionally accomplish two trips a day from steamers, which lie nearer the shore than ships, and also from grain ships, to which the boatmen appear partial.

2. Although there are 90 boats on the license register, many are at present out of repair, some seriously so; and there are only 53 of them available for work. The Master Attendant has power to withdraw the license from any boat not kept in repair, and he hopes that the knowledge of this power, and the prospect of regular work, may induce the owners to put more boats in working order; but he does not think it likely that many boats from the neighbouring ports will come in to supplement the numbers, even if good prospects of regular work were held out.

3. Allowing for some increase in the number of boats, and for increased delivery from steamers, it appears safe to reckon on landing at Negapatam 300 tons a day of grain and general cargo.

4. During the month of March there are expected to arrive at Negapatam, (1) three ships (already overdue), with a total load of 2,600 tons of stores for the South Indian Railway; (2) forty Native craft with rice from Akyab; and also (3) the weekly steamers of the British India Company, which are now bringing grain from Negapatam. If the delivery by these Native craft is taken, as I am told it may be taken, at 8,000 tons, and by the British India Steam Navigation Company's steamers at 1,000 tons by the four steamers during the month, there will be ample work for all the boats available, and there will be every inducement for more to get ready for work, by the latter part of the month.

5. The following particulars learnt at Negapatam may be interesting:—

A ship with a cargo of 1,700 tons of coal has been 46 days unloading; another ship with 1,300 tons on board has just discharged her cargo in 28 days.

When steamers call with cargo from Negapatam, the boats leave the ships and Native craft, and concentrate all their energies on the steamer's cargo, frequently making two trips a day in place of their ordinary single trip.

6. The boats would be able to do more work but for the detention caused by the bar ; Negapatam
port. whether any temporary improvement in the channel could be effected or not is a point on which, without special experience of works on the Madras coast, I would not venture an opinion. If, however, it is desired to work a large traffic at Negapatam, this way of increasing the landing power of the boats will doubtless be considered along with others.

7. If now it is assumed that the special aid given to the conveyance of grain from Negapatam to Bangalore will change the natural current of trade, which at present flows from Negapatam and the Tanjore district towards Madura and the south, it remains to consider what amount of traffic can be worked over the two portions of the South Indian Railway, viz., the narrow-gauge line from Negapatam to Trichinopoly and the broad-gauge line from Trichinopoly (after transhipment to Erode). It is confidently stated by the Agent and officers of the South Indian Railway that there are sufficient narrow-gauge engines and rolling-stock to work from Negapatam to Trichinopoly all the grain which the broad-gauge railway stock can work away ; and as the whole of the existing traffic is conveyed by day trains, it is evident that many more trains can, if necessary, be worked over the line. Any restrictions imposed by Government on working trains over an unfenced line at night will probably be withdrawn in view of the necessities of the country, and moreover, these restrictions do not affect directly the train service between Negapatam and Trichinopoly, where the line is fenced.

8. Up to Trichinopoly there need be no limit stated, but at this point the break of gauge necessitates transhipment. The Traffic Manager, in whose department this work lies, is of opinion that, with the present transhipment accommodation, he cannot undertake to tranship more than 30 waggons, or about 190 tons, a day, in each direction ; and although I am surprised at the moderate estimate of the work considered practicable with the existing accommodation, it is possible that the less active habits and the smaller physical powers of the loading coolies at Trichinopoly present difficulties which I am not accustomed to consider. The Traffic Manager considers an additional transhipment platform necessary, and with this, which it is possible to provide within a fortnight, he is prepared to work up to the powers of the broad-gauge engines and rolling stock.

9. Next to the landing powers at Negapatam, the capacity of the broad-gauge section of the South Indian Railway fixes the limit to the traffic from Negapatam to Bangalore. There are altogether ten broad-gauge engines, suitable when in good repair for running trains ; but of these five are now undergoing heavy repair. In ten days' time (say the 10th March) one engine of the five now running must go in for repairs, and it will be replaced by a larger one of which the repairs are nearly completed.

After an interval of about three weeks another engine will be turned out after repairs, and another after a similar interval.

The Locomotive Superintendent, with these prospects, considers himself in a position to carry after the 10th March—40 grain waggons a day, or 250 tons, and after 1st April 60 grain waggons a day, or 375 tons, to Erode.

10. The engine-power being sufficient for the probable landing powers at the port of Negapatam, even after allowing for a large increase, it remains to consider the sufficiency of the waggon stock. The stock of about 200 waggons of all sorts, including ballast waggons, would be enough to work about 60 waggons a day between Trichinopoly and Erode ; but the through-booked grain will most advantageously and most expeditiously be carried on to Bangalore in the same waggons, and the waggon stock of the South Indian Railway Company will not suffice for this purpose.

11. To work to the best advantage, a system of waggon interchange not now in force would have to be established at Erode Junction ; *i. e.*, for every loaded waggon sent off from the South Indian Railway, an empty waggon should, if required, be made over by the Madras Railway Company. In this way the stock of both lines may be worked with more effective results than is otherwise possible. And this joint service will not occupy the waggon stock of either railway longer than is proper to the respective distances on each line.

12. But the distance from Erode to Bangalore is so little shorter than that from Madras to Bangalore, that little, if any, advantage of economy of the engine-power and rolling stock of the Madras Railway can be claimed for this route. And although from the recently increased number of engines, and from more regular working, an increased delivery of grain may confidently be expected from Madras, it does not seem likely that the Madras-Arconum line will for some time yet be overworked, or that the engines can be more profitably employed elsewhere.

13. But with regard to the possibilities of working traffic from Negapatam to Bangalore, I am of opinion that, making allowances for all the difficulties in the way of working

Negapatam
port.

a large traffic *viâ* Negapatam, it is possible, by bringing into use the power of the South of India Railway, and by an expenditure of the power of the Madras Railway equal to, or perhaps a little less than is required to work the same traffic from Madras, to carry from Negapatam to Bangalore about 200 tons of grain a day during March, and up to 300 tons a day in April and subsequent months, if more landing power can be provided at Negapatam, and that along with a disturbance of the natural current of trade from Negapatam to Madura and the south there are some incidental advantages in drawing, even at present, a portion of the food supply of Bangalore from Negapatam.

But I consider that until the Madras-Arconum section of the Madras Railway is worked so as to feed to the fullest extent of its powers all the portions of the north-west and south-west lines, which are with the least expenditure of carrying power supplied from Madras, there is no material advantage to be gained by the use of the Negapatam route.

14. But as changes in trade routes cannot be made suddenly, it is worth while noting that, if traders begin now to arrange for consignments *viâ* Negapatam, their consignments may be expected to arrive there about April, or just at the time when the greatest strain on the Madras-Arconum section is likely to occur, and when it is to be hoped that this section will be worked to its full power. And it is further to be considered that, before the end of the month of May, the Bypore traffic will probably be stopped by the monsoon, and that the Negapatam traffic, which will be practicable all through the rainy season, will then become of great importance to the country.

No. 222.

No. 133.

No. 13 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Calcutta, the 2nd March 1877.

We proceed to lay before you a summary of the matters which have engaged our attention in connexion with the famine in Southern and Western India during the past week.

The proposed
line, Bellary
to Kárwár.

2. In our last Despatch we informed your Lordship that, on the recommendation of Sir Richard Temple, concurred in by the Government of Madras, we had sanctioned the commencement of the earth-works of a railway from Bellary to Hubli in the Bombay district of Dhárwár, which forms a section of a line projected some years ago to connect the Madras Railway at Bellary with the port of Kárwár in North Kanara. The commencement of this line as a relief work was recommended by the Government of Madras at an early stage of the famine in that presidency; but we declined to sanction it on grounds similar to those which influenced us in refusing our assent to the commencement of the Dhond and Munmar Railway when first proposed by the Government of Bombay, viz., that we did not consider it expedient to sanction large and expensive works, the ultimate cost of which would greatly exceed the expense involved for providing labour for the distressed poor. At the time at which the proposal was made, the 27th October, it was not too late to look for rain from the north-east monsoon, which would have materially altered the aspect of affairs in Madras.

3. More recently the Bombay Government, in their letter of the 23rd January, enclosed in our Despatch of the 9th ultimo, recommended the line as one which would afford a useful relief work to their southern districts as well as to the Madras district of Bellary. The principal questions connected with the line are discussed in Sir Richard Temple's minute* of the 16th ultimo, and in the memorandum* annexed to it. The entire length of the line from Bellary to Kárwár is 236 miles. It would pass through the cotton-growing tracts of Bellary, Dhárwár, and North Kanara. It would also serve a great part of the Belgaum district and the southern talukas of Kaládgi. The average cost of the line is estimated at about 7,000*l.* a mile, or somewhat more than a million and a half for the whole line. The estimated cost of that portion of the work which could be done by unskilled labour is Rs. 16,06,000, but it is stated that a proportion of the labourers on the relief works in Bellary and in Dhárwár are of the Wuddah tribe, whose ordinary employment is working in stone; that considerable gangs of stone-workers could be found in the ceded districts and in Dhárwár; that there is a large quantity of stone-work to be done at the Tungabhadra bridge, and heavy cuttings in rock, laterite, and gravel. The estimated cost of the stone-work at the ordinary rates is Rs. 3,62,000. The estimated cost of the work which could be done by relief labour during the present

* Enclosures in our Despatch of 23rd February 1877. (Nos. 74 and 93 in this Collection.)

season is, at the estimated rates in ordinary years, Rs. 14,60,000, and allowing for the expensiveness of relief labour, Rs. 19,000,000 is the sum which would be diverted to this work from comparatively unremunerative works.

4. It is doubtful, however, whether during the present season it would be possible to organise large relief gangs and transport them into Kanara in time to make any serious impression on the heavy cuttings of the Ghât section of the line. The traffic is estimated to yield about four per cent. on the capital. As your Lordship is aware, the Secretary of State in 1873 declined to sanction the line, entertaining doubts as to whether the export of cotton from India, on which the line would depend for two-fifths of its whole traffic, would be maintained. Sir Richard Temple was not in favour of undertaking the line as a whole, on the ground that other lines were politically and generally more important than the Bellary and Kárwár line, and that there seemed to be much doubt as to the capabilities and the need for future expenditure on the Kárwár harbour; but inasmuch as useful work was wanted for 350,000 labourers in Bellary, and that there would soon be no useful work left for them to do, he recommended that they should be employed in constructing the earth-work on the section from Bellary to Hubli, which is the cheaper and easier section of the line, and which, according to an opinion expressed to him by the Bellary cotton-dealers, would bring a great deal of cotton traffic upon the Madras and Great Indian Peninsula Guaranteed Railways.

5. Sir Richard Temple had already satisfied himself that there was no other work of magnitude in or near the Bellary district which could be organised for the relief of distress. The only other one which had been suggested was a high level canal from the Tungabhadra, projected some years ago, which, if practicable, would unquestionably be a most valuable work, bringing under irrigation a very considerable tract of land in the Bellary district; but the cost of the work would be very considerable, involving the construction of a costly reservoir in Mysore; and he had not been able to satisfy himself that this was a project which ought to be undertaken.

6. In these circumstances we thought it right, as stated in our Despatch of last week, to sanction the earth-work of the Railway from Bellary to Hubli as a relief work, on the understanding that the Government of India are not pledged to the ultimate completion of the line.

7. With your Lordship's permission, sanction has been accorded to doubling the line from Ambatur, near Madras, to Arconum on the Madras Railway. Arconum is the point at which the north-western branch of the Madras Railway leaves the main line, and consequently up to this point the railway, with its single line of rails, has had to carry the traffic, not only of the western districts, which are traversed by the main line, but that of the two branches to Bangalore and to Raichore, where the Madras line and the Great Indian Peninsula join. It is to be hoped that the doubling of the line to Arconum will greatly diminish the difficulties now experienced in carrying into the interior the large stores of grain which have been recently imported into Madras.

8. Another step which has been taken with the same object, is the equalisation of the through rate for grain from the port of Negapatam in Tanjore to Bangalore, and the suspension of port dues at Negapatam in the case of vessels importing grain equal to a quarter of their whole cargo. A telegram from the Madras Government, dated the 23rd ultimo,* notifying these measures, which has been communicated to the Calcutta Chamber of Commerce, and published in the Calcutta newspapers, is enclosed. As the freights from Calcutta to Negapatam are the same as from Calcutta to Madras, it may be expected that these measures will lead to some of the grain from Calcutta, Burma, &c., which in the ordinary course would be sent to Madras, being shipped to Negapatam, whence it will find its way by the Great Southern of India Railway to Bangalore, and also probably to the distressed districts in the south of the Madras Presidency.

9. From a telegram addressed to us by Sir Richard Temple on the 24th ultimo,† we were gratified to learn that he had "received favourable accounts of coming spring crops from wells in most parts of the Cuddapah district which mitigate anxiety." We have since received the following telegram from Mr. Bernard, dated from Madras, yesterday, containing Sir Richard Temple's weekly bulletin:—

Sir Richard Temple is visiting Nellore. He sends following for mail: "favourable points, same as per last bulletin, regarding activity, internal trade, food supply, condition of people, and energy of Government officers. Price of millet cheaper in Bellary, whither large importations continue from north. Railway despatches of rice from Madras are short, and accumulation of stocks there great. Good deal grain coming from Beypore. Further arrangement for strengthening railway at Madras proposed. Doubling line to Arconum progressing. Ten more miles double line will shortly open. Numbers on works reduced in all districts, except Nellore and Salem, which Sir Richard will now visit. Spring crops irrigated from wells and river channels in Cuddapah, North Arcot,

To facilitate grain traffic the line from Ambatur to Arconum to be doubled.

And through rate for grain from Negapatam to Bangalore to be equalised.

* No. 116.

† No. 118.

and some other places surpassing expectation; will yield food for those neighbourhoods for two months. Tinnevely district doing very well; large saving on estimated expenditure will accrue there."

The intelligence contained in this telegram is on the whole satisfactory.

Correspondence with Governor of Bombay as to preservation of life.

* Nos. 77. 126.

As to dealing with strike among labourers.

10. We enclose for your Lordship's information a further correspondence* which has passed with the Government of Bombay regarding that part of our instructions to Sir Richard Temple in which we endeavoured to define the duty of the Government in times of famine. A strike having recently occurred among the labourers on the relief works at Sholapur, owing to a reduction in the rate of wages, the Government of Bombay inquired what course they were to take in the event of the strike continuing; in which case they apprehended that, before the majority who were comparatively strong were brought to reason, some of the weakly might be reduced to a condition of great prostration and might die out of reach of assistance. We had previously, as stated in our Despatch of the 16th ultimo, paragraph 8, been in correspondence with the Government of Bombay by telegraph regarding the strike, and had expressed our concurrence in their opinion that it would be very mischievous to yield to a strike on relief works attributable to combination, and that relief wages would not be raised if the Government of Bombay were satisfied that the rates were sufficient. In replying to their subsequent representation, we observed that, while we were fully prepared to support the Government of Bombay in its refusal to yield to the demands which had been made, the most efficient measures that were practicable should be taken to guard against the danger which they pointed out, and to give relief in each individual case in which it was necessary. We remarked that when a man was obviously in danger of dying from starvation no efforts should be spared to save him, although he may have been misled into joining a strike; but that if after all such efforts had been made, the case anticipated, as possible, by the Government of Bombay should occur, and persons to whom no relief could be given should die out of reach of assistance, the misfortune will be much regretted, but it will throw no discredit on the Government or its officers. It is obviously impossible for the Government, in carrying out its humane policy, to guard against every one of the numerous risks to life which arise in time of famine, or to save every one from the consequences of his own ignorance or folly. We trust that there will be no further misapprehension as to the precise meaning of our instructions on this point.

Five lakhs of rupees advanced to municipalities.

Sir Richard Temple's suggestions anticipated by Bombay Government.

† Page 77.

11. We have sanctioned a special grant of five lakhs of rupees to enable the Government of Bombay to make advances to municipalities and local fund committees, who being in a position to carry out relief works, consent to pledge their revenues as security for advances made to meet the present emergency.

12. The Government of Bombay have drawn our attention to a passage in our Despatch to your Lordship's address under date the 9th February, which does not sufficiently describe the extent to which Sir Richard Temple's suggestions has been anticipated by the Local Government. We said, in the 5th paragraph† of the Despatch in question, that the Government of Bombay had anticipated the most important of the suggestions made by Sir Richard Temple, viz., the reduction of grain wages. We ought to have framed our remark in terms of more general application; for, as the Government of Bombay observe, the suggestions made by Sir Richard Temple had been anticipated, not only as regards reduction of wages, but also as regards the rejection of persons not really in need of relief, and in reference to a more rigid exaction of task work. In the same letter, a copy of which has been sent to your Lordship by the Local Government, referring to a remark made by us in the same Despatch, that we were not then aware whether anything had been done in either presidency, in the direction of closing small works, the Government of Bombay state that as soon as they had been put in a position to do so, by receiving sanction for the prosecution of large works, they proceeded with all practicable expedition to close as many as possible of the small and more scattered works that had previously been in progress, and over which a proper control could not be effectually maintained. We have noticed, that since the beginning of January, when the restrictions on large works were removed, the Government of Bombay have sanctioned provisionally a very considerable number of small works; but we feel sure that when they accorded these sanctions, the Government of Bombay had satisfied themselves as to their necessity, and we entertain no doubt whatever as to the earnestness of the efforts which that Government is making to prevent all needless expenditure. The last weekly return shows that the number of persons employed on relief labour under Civil Agency, most of whom probably were on small works, had diminished from 136,629 on the 13th January to 63,659 on the 10th February.

v. No. 22.

Numbers employed in Bombay and Madras.

13. According to the latest return the number employed upon the relief works in the nine distressed districts of Bombay was 248,902 against 238,219, the number for the previous week. In Ratnagiri and Kanara, where hill-men and immigrants are employed

upon relief works, there was a decrease of 3,785. There was thus a net increase of 6,808 in the number of famine labourers in Bombay, which seems to be principally attributable to the gradual cessation of the strike, already alluded to, in the Sholapur district. In Madras there has been a considerable further diminution in the number of relief labourers. The number stated in our last Despatch was 767,281, which has fallen to 713,921.

We have, &c.

(Signed) LYTTON.

ALEX. J. ARBUTHNOT.

J. STRACHEY.

No. 134.

No. 147.

Telegram, dated 3rd March 1877.

From SIR R. TEMPLE, ARCONUM, to REVENUE ADDITIONAL SECRETARY, Calcutta.

Have returned from Nellore after a hard journey. Found numbers on relief not at all excessive compared to failure of crops. Saw signs of distress in western part of district. Was much pleased with East Coast Canal. Have recommended that 40,000 relief labourers be sent there from ceded districts and Kurnool. Have also suggested commencement of earth-work by relief labour on Sangum irrigation project from Pennair River near Nellore. Shall next proceed to Salem and Coimbatore.

Nellore district.

No. 135.

No. 170.

LI.—MINUTE by SIR RICHARD TEMPLE on the advisability of commencing the earth-work of the "Sungum" project in the Nellore District.

Arconum, 3rd March 1877.

During my recent visit to the Nellore district, I was much struck by the possible advantages of what is known as the "Sungum" project for the employment of relief labour.

Sungum irrigation project.

2. This project has, as I learnt, been professionally framed; the plans and estimates are ready, and the work could be put in hand at once, whereby many relief labourers now employed on village works could be at once employed under regular professional supervision.

3. The project is an excellent one for using the flood waters of the Pennair river to fill channels which carry the waters to tanks and other reservoirs for irrigation. The head works are situated at a point called "Sungum," near Atmakoor, on the Pennair River, about 30 miles above Aloor. The total cost is estimated at 27 lakhs of rupees (say 270,000 ₹); 94,000 acres would be irrigated, and the net returns in water tax are computed at 2½ lakhs (say 25,000 ₹) annually. The financial prospect is therefore fair enough.

4. Out of the total cost above set down—27 lakhs of rupees—the greater portion consists of earth-work and excavation, namely, 16 lakhs, as will be seen thus,—

	Lakhs.
Tanks and channels	16
Masonry distributaries	5
Anicut in Pennair	6
Total	27

5. Now, subject to correction, I understand from the District Engineer (with whom I had the advantage of travelling while in the Nellore district) that the earth-work, that is, the channels and tanks, might at once be undertaken by relief labour within the cost of 16 lakhs, which work would be useful so far as it goes, without the whole of the remaining expenditure, namely, 6 lakhs for anicuts and 5 lakhs for masonry distributaries, being necessarily undertaken. These works will, of course, be wanted for the complete project; but the project might be executed without them, and though in some degree incomplete, it might be useful without them. In this limited sense I learn that only 3 lakhs worth of masonry channels would be absolutely necessary. If executed in this manner, that is,—

with 16 lakhs, earth-work.
3 ,, masonry distributaries.

Total 19

the project might yield net $1\frac{3}{4}$ lakhs annually in revenue returns. It would employ 200,000 persons for four months.

6. Considering the large numbers that are being employed on comparatively unproductive district and village works, I think it is a pity that relief labour cannot be employed on the earth-work of this really useful and well-considered project.

7. I bear in mind that all available labour is wanted for the East Coast Canal, which is also in the Nellore District, as is shown in my minute of the 28th ultimo on the subject. But there is much difficulty in inducing the relief labourers to go there. And it is possible that thousands of persons who would not go to the East Coast Canal would be willing enough to work on this Sungum project, which is favourably situated as regards their homes. And some thousands of relief labourers might be sent from the ceded districts and Kurnool.

8. It is true that the earth-work for the channels and tanks will not produce a result without the addition at least of 3 lakhs of expenditure for the masonry distributaries, but for this also relief labour would be to some extent available. And something might be contributed from the ordinary irrigation grant of the presidency; of this point, however, the Madras Government would be the judge.

9. At all events, when so much stress is justly laid upon the employment of relief labour upon really good and reproductive projects, it seems proper to ask the notice of the Government of Madras to the merits, in this respect, which the Sungum project in Nellore possesses. If anything is to be attempted, then rapidity in commencing would be essential.

No. 181.

No. 136.

LXI.—MEMORANDUM by CAPTAIN W. S. S. BISSET, R.E., on the carriage of GRAIN for BANGALORE, *via* NEGAPATAM.

Bangalore, 3rd March 1877.

Grain supply
to Mysore *via*
Negapatam.

I have now visited Negapatam and ascertained by observation and personal inquiry the present and prospective possibilities of landing grain at Negapatam, forwarding it thence to Trichinopoly, transshipping it there to the broad-gauge waggons, delivering it by the South Indian Railway broad-gauge line to Erode on the Madras Railway for conveyance thence to Bangalore.

2. Yesterday, through the courtesy of the Chief Commissioner of Mysore, I had an opportunity of seeing the chief traders here, and of explaining to them the fears that are entertained that the amount of grain required at Bangalore cannot be supplied by the Madras route.

3. I learnt that the merchants were obliged to refuse heavy orders for grain from the interior, and that they could easily sell 100 to 150 tons a day in addition to the present supplies, which have amounted to 330 tons a day in November, 375 tons a day in December and January, and 390* tons a day up to the 22nd February. I endeavoured to explain the advantages which they could have in drawing from Negapatam as much of their supply as could find carriage by that route, and I informed them that I had just been to Negapatam, and that I had

* These figures are for the Bangalore station only. Kolar and other stations in Mysore on the Bangalore branch takes about 15 per cent. (or say 60 tons a day) on the Bangalore receipts.

ascertained as follows:—

1st. That grain sent to Negapatam can be landed easily to the extent of 200 tons a day after allowing for the landing of other general cargo.

2nd. That the boats can take the grain bags direct from the ship to the river bank, which is within 400 yards of the railway station.

3rd. That by the order of his Grace the Governor of Madras, the rates for the carriage of grain from Negapatam to Bangalore have been made the same as the rates from Madras to Bangalore.

4th. That the Agent and officers of the South Indian Railway are prepared † to carry from Negapatam during March 40 waggons or 250 tons, and during April and subsequent months 60 waggons or 375 tons a day, and that they can certainly carry at once 200 tons a day.

† For the free working of this traffic some transshipment arrangements are required and can be readily made if considered necessary.

5th. That fears are entertained that, with equally urgent demands from other distressed districts, the carrying powers of the railway from Madras to Arconum will be unequal to the pressure, and that if additional supplies are required for Bangalore it will be necessary to draw them from another source than Madras.

6th. That grain can be landed at Negapatam throughout May, June, and July, while the western ports will be closed by the burst of monsoon early in May.

4. The authoritative announcement of the reduction of rates had not then, and has not yet, reached the Chief Commissioner, the Railway Station-master or the traders, and my statement on this matter was with difficulty accepted. I assured the meeting that the orders had been received at Negapatam on Monday the 26th February, and that they would find on inquiry that my statement was correct.

5. The merchants said they would at once inquire and instruct their agents to send some of their grain *via* Negapatam, so that they might get as much as possible by using all routes.

They evidently had misgivings about the supply of waggons at Negapatam and Trichinopoly, and some of them said they had already been getting a few waggons from Negapatam, and that they had actually experienced this difficulty, and that their grain was much delayed in transit. I referred to the assurance given to me by the railway officers, and as regards delay I suggested that a few days' delay on the way was less objectionable than long detention on the Madras beach. Another merchant objected that he could get no *raggi* at Negapatam, and that *raggi* could only be got at Beypore, where it comes down the coast from the north. No answer could be given to this, for, as far as I am aware, *raggi* is not to be bought on the eastern side of India. But I endeavoured to explain that the object of my visit was not to desire them to use Negapatam port to the exclusion of other sources of supply, but to inform them of the means which were at their disposal for drawing supplementary supplies from Negapatam and of the reduction of railway rates, which his Grace the Governor of Madras had been pleased to authorise, in addition to the abolition of port dues at Negapatam on any vessels carrying a fourth part of their cargo in grain.

* Major T. Clarke, Secretary to the Chief Commissioner.

Colonel Pearse, Commissioner.

Colonel Puckle, Deputy Commissioner.

6. I am permitted to record that the officers of the Mysore Administration* who were present at the meeting concur with me in believing that the Native traders understood the explanations given, and that they intended to take advantage of the facilities offered.

7. I conclude by mentioning an incidental advantage which would arise if any considerable supply of dry grain were to be sent from Calcutta or other port to Negapatam. Karur or Caroor, the head-quarters of the taluk of that name in the Coimbatore district, draws about 100 tons of cholum a day from Beypore. If the landing powers at Negapatam were increased, this supply could be taken to Karur in addition to the supply for Bangalore; for the gradients between Trichinopoly and Karur are easy, and those from Karur to Erode heavy. It may be objected that the supply to Bangalore will diminish the supply to Madura; but Madura can be more easily supplied with sea-borne grain from Tuticorin, and there are, as far as I have learnt, no objections to sending grain there.

8. I would suggest further, that a corresponding reduction of rate be granted on grain consigned from Negapatam to Kolar road.

Grain supply to Mysore *via* Negapatam.

No. 137.

No. 170.

LVIII.—MINUTE by SIR RICHARD TEMPLE on his third visit to the North Arcot District.

Vellore, 5th March 1877.

In continuation of the minutes and memoranda regarding my first and second visits to the district of North Arcot,* I have to record the result of a further visit to that district. I was induced to pay this third visit because my information about the degree of distress in some parts of the district was conflicting, and because in other parts, especially zemindaris, there was reason to fear that distress might become serious.

2. On this occasion I visited the town of Tripetty, accompanied by the Native officials of the place, where the arrangements made by Veeraswamee Chetty, a Native gentleman, for charitable relief were inspected. Upwards of 1,000 persons were being fed gratuitously, of whom about one-fourth were certainly able to work and were unworthy of this form of relief, one-fourth were perhaps able to work, and the remainder were either destitute and depressed, or else were poor and weakly. The Native donor stated that this charitable work had been going on for many weeks, that the daily number often exceeded 1,200, and had been as high as 2,000, even sometimes 2,500.

3. I then proceeded to Chendragiri, 15 miles distant, to meet the Collector. All the way thither excellent spring crops were met with, watered by irrigation channels from the river Surnamukhi. At Chendragiri, ascending the hill, we saw that these ripening crops extended for miles, also along the other valley through which runs the road to Chittor.

North Arcot district.

* Part II. pp. 54-5.

No. 48.

North Arcot
district.

At the town of Chendragiri I saw some gangs of relief labourers and some few persons being fed gratuitously—some also when offered a reception at the relief camp at Arcot refused to go. Here were learnt the particulars of the distress undoubtedly prevailing in some 30 villages in that portion of the taluk in the neighbourhood Rungumpet and of the relief works provided there, which appeared to me to be sufficient. Otherwise in the rest of the Chendragiri taluk there is a fine crop on the ground, sufficing for the maintenance of the resident population.

4. Returning to Tripetty, we met the Agent of the Mahant of that well-known and wealthy shrine and the principal person of the place; he affirmed that all the destitute poor of that locality were being cared for. At Ranugunta, near the Tripetty railway station, there is a small relief work open under a European subordinate:

5. I then visited, in company with the Collector, the town of Trittany; saw some gangs of relief labourers and some recipients of charitable relief; heard the statement of the Police Inspector, who thought that there was severe and unrelieved distress in some of the neighbouring villages, and the counter-opinion of the Native Sub-Magistrate, who thought that there could not be such distress, as the relief works which he had opened were not well attended. This latter view was to some extent borne out by the sight of excellent crops on the ground at intervals for many miles round. The Police Inspector did not appear to have regularly reported to the Sub-Magistrate the result of the observations made. It was understood, however, that in future this want of intercommunication would be rectified.

6. I then proceeded to Puthoor, the railway station for Narayana-venum (apparently the same place as that called Nurnaverum in the police reports). There was not any charitable relief being administered, but 1,000 persons of the poorest classes were paraded by the Magistrate for my inspection, on the report of the Native Sub-Magistrate that these persons fairly represented those classes in the town. I picked out 24 persons who, from physical depression or emaciation, seemed fit subjects for inquiry; the Collector expressed his intention of dealing with these cases and of instituting a house-to-house inquiry to see whether any more similar cases could be found. The remainder, that is, the vast majority, were in fair condition, and did not at all complain of distress. Thereabouts also there was a considerable area under good crops. Though there was no relief work at the place, still the works open at or near Tripetty and Trittany would suffice to afford employment to those who might need it.

7. The towns of Narayana-venum and Trittany are the principal places in the Karwet-nagar zemindary. The eastern portion in the direction of Madoo Pauk is reported to have suffered much from drought. Otherwise this zemindary has been favoured by the seasons which elsewhere proved so disastrous. Autumnal showers gave it a fair winter crop. Irrigation from wells and from water courses will give it a good spring crop. So far then, this tract has not suffered from drought, and therefore there ought not to be distress among the cultivating peasantry. Still high prices may have caused employment in the fields to be narrowed and restricted (ryots working themselves instead of employing labour), and will have reduced the scanty means of such tribes as Yenadas, Irulas, Korchas, and others who wander about that part of the country. I carefully read the report by Mr. Austin, Sub-Collector, made after his visit. He is an officer of much humane zeal. On inquiry he stated that he could not discover any proof of famine, though there might be some partial distress and some individual misery.

8. I examined the returns of crime presented by the Magistrate. It appeared that towards the end of 1876 crime had been extraordinarily rife, but had since subsided. There do not seem to be any bad symptoms at the present time in this respect.

9. In the local reports previously made to Government I failed to find notice of the fact that for some time past extensive private charity had been dispensed daily at the town of Tripetty.

10. I then visited Kalustri, the head-quarters of the zemindar, who met me there, together with the Sub-Magistrate. The zemindar reported having employed a considerable number of persons on relief works which were just being closed on completion. But the Sub-Magistrate stated that he had received authority from the Collector to open some relief works, which had been opened. Out of 1,200 persons being fed daily by the zemindar, I carefully inspected 600. Many belonged to the Yenade tribe and seemed physically depressed. The worst of them were about to be despatched to the relief camp at Ranipet, near Arcot, by the Collector's direction, in order that they might be better cared for. The zemindar complained much of the drought, which complaint was confirmed by the Sub-Magistrate. My impression is, that the drought has been exceptionally severe in this zemindary.

11. After a few days' interval (for my visit to Nellore) I returned to the North Arcot district, and proceeded to Ranipet, near Arcot, and inspected the relief camp there,

which really was nearly all that could be desired, and was fairly well filled with persons deserving charitable relief. Some gangs of relief labourers were also inspected. Then, passing through the town of Arcot and seeing some relief gangs there, I drove to Arni, where a large number of poor are being fed by the jagirdar, most of whom are deserving, but some are not. A 10 anna crop (that is, a crop somewhat, but not much, below the average) is expected in the jagir. No relief works are open at present; if any are required, the jagirdar is prepared to open them. The spring harvest all round Arni is coming on. I had all the lower classes of the town of Arni, some 2,000 persons, paraded for inspection. They were found to be in good condition. I there met the Deputy Collector (a Muhamadan gentleman) and the tahsildars of the Wandewash and the Poloor taluks. The crop in Wandewash appears by the best evidence to be little below the average, and no relief works are at present proposed there. The crop in Poloor is not quite so good, and relief works are ready to be opened there if need should be apparent.

North Arcot
district.

12. I then proceeded to Vellore by the Kaneimbady pass. I found that the large numbers on the charitable outdoor relief which existed at the time of my previous visit had melted away on the opening of the relief camp. Without doubt there had been some abuses in connexion with this charity. I inspected the relief camp there, which was found to be nearly all that could be desired, and fairly well filled with persons deserving this kind of relief. The arrangements in this camp, as in the Ranipet camp, are creditable to Captain Harris, the Superintendent.

13. At Vellore I met the Sub-Magistrate of the zemindary of Kongonda. He reported much distress in that quarter, which would be met by the relief works which were being opened, and was partly being relieved by the private charity of the zemindar.

14. I then left the district for Coimbatore.

15. During this my third visit the following things seemed to me to be required:—

1st. The converting of the ill-regulated private charities at Tripetty, at Kalustri, at Arni, at Punganur, at Kongonda, and other places into well-regulated relief camps. The private contributions should be studiously maintained, it being so great an object to encourage private charity, but the donors might well be induced to consent to let their contributions be managed by Government officers, so that undeserving applicants may be rejected and only the deserving entertained. Otherwise experience shows that private charity in this country is so apt to mingle the undeserving with the deserving, wherefrom demoralisation ensues. The Collector is arranging to form a relief camp on this principle at a suitable place near Tripetty.

2ndly. The rendering of the relief camps more attractive or rather less repulsive to the poorer classes than they now seem to be. It is indeed an object to render them unattractive comparatively, as an indirect check upon people unduly availing themselves of the charity. But they do not fill so rapidly as might be expected under existing circumstances, and there must be some sort of prejudice arising against them, despite all the carefulness with which they are managed. I incline to attribute this to defective arrangements in respect to the allocation of the people in their several castes. This subject is being considered by the local authorities.

3rdly. The inspection by selected Government officials of every village throughout the several zemindaris existing in this district, namely—

Punganur	Kalustri,
Arni,	Kongonda,
Karvetnagar,	

in order to see whether the house-to-house visitation by the village headmen to search out cases of distress is carried on with the same precision and certainty as in the regular ryotwari villages. I understand that the collector intends to have this done.

4thly. A specially house-to-house visitation in the several towns,—Vellore, Arcot, Tripetty, and others,—not only to search for unrelieved distress among the lowest classes, but also to ascertain whether distressed persons of the better, though broken-down, classes who are too proud to come forward may not receive special relief. This, I believe, the Collector has ordered to be arranged by the several municipalities.

5thly. The arrangement of some light textile work on which the distressed weavers (so numerous in this district) might be employed, the digging and delving on ordinary relief works being unsuited to them. This also the Collector has under consideration.

North Arcot
district.

16. I have now at various times visited the following taluks in this district :—

Chittoor,	Chendragiri,
Vellore,	Wallaja,
Palmanair,	Arcot,
Gudathum,	

and the following zemindaris :

Punganur,	Kalustri,
Karvetnagar,	Arni.

The only taluks unvisited are Wandewash and Poloor, and the only zemindary Kongonda, but of all these I have met the Native officials.

17. I find that distress does not threaten the mass of the people ; that the numbers on relief works will probably not much exceed the comparatively small number now employed, if only the usual showers of April shall last ; that the numbers on charitable relief will probably increase considerably as the season advances ; that in the old town, scattered over the district, in the sacred haunts so much frequented by pilgrims and beggars from distant places, and in the jungle tracts fringing the edges of the district, there are classes among whom many cases of individual distress are to be expected ; that on the whole the relief measures taken in hand are sufficient to meet that degree of distress which is to be anticipated ; that the relief works are of a small description, the number of able-bodied relief labourers not being large enough to justify their congregation upon large works, but if such large works should be wanted, there are many tanks to be repaired ; that in some particular places the delay which at one time occurred was owing to technical and other reasons beyond the control of the local authorities ; that the arrangements for house-to-house visitation in every village (save the zemindaris, which are being separately arranged for) are very systematic and satisfactory. I have discussed with the Collector every measure of relief which I can think of. My impression is that he is now doing everything whichought to be done in this respect.

18. The Collector, Mr. Whiteside, appears to me to be a very able and experienced officer—on the one hand very anxious to spare the Government money and to prevent the Government being imposed upon, on the other hand equally anxious to prevent any accident occurring to human life and to relieve every person who really needs relief—specially acquainted with the ways of the people in this district, and alive to all the devices by which some might try to unduly benefit by the State bounty, yet fully aware of all their merits and virtues, and entirely sympathising with all distress which may actually occur. He is zealously and humanely seconded by his Sub-Collector, Mr. Austin, and the Assistant, Mr. Cox.

Nos. 139.

No. 138.

LII.—MINUTE by SIR RICHARD TEMPLE respecting the Nellore District.

Coimbatore, 6th March 1877.

Nellore dis-
trict.

In forwarding the memorandum of facts ascertained by me during my recent visit to the Nellore district, it will suffice to make only a few general remarks.

2. The failure of the rains during 1876 in this district appears to have been more utter than I had previously supposed. Hardly one-third of the average rainfall was vouchsafed. At no period of the year did any sufficing rain fall ; even the Pennair River failed to come down in flood ; and the dam across that river opposite the town of Nellore and the irrigation works dependent thereon have this year proved almost useless. Along the East Coast line, that is, in the villages immediately adjoining the margin of the sea, some rain fell ; but it dwindled away to the westwards, till almost nothing fell in the western parts of the district at the base of the Ghât range of hills. I found very serious drought prevailing and considerable distress, especially in the vicinity of the well-known hill fort of Udaigarh. The total out-turn of the district is still estimated by the local authorities to be under four annas, or less than one-fourth of the average out-turn. On the other hand, in some parts of the district, especially the eastern, the people, finding water to be near the surface, have, with commendable industry, made the most of this slender opportunity and have dug temporary wells or deepened old wells, and thus raised a certain amount of spring crops. Between Nellore and the East Coast Canal, I saw cultivation of this kind stretching for several miles. In a short time the result of the accession of new grain supply will be felt throughout the district.

3. Meanwhile, the markets are well supplied with grain, coming both by inland and by water routes.

4. Out of the large number of relief labourers whom I inspected carefully (about 17,000 in all), very few were found to be apparently in a condition to sustain themselves; the vast majority seemed to be persons of the right sort for these works, that is, persons who really needed this form of relief. Their physical condition was generally fair. But among them were found sprinkled here and there persons whose physical state was low and unsatisfactory. Every one of these I brought to the notice of the Collector. The total number at the time of my visit, 55,000 persons on district works and 30,000 on the East Coast Canal (of which latter most belong to the Nellore district), in all 85,000, amounts to 6 per cent. on the population of the district—a proportion which, though liberal and sufficient to meet the existing distress, is not excessive, considering the failure of harvests. Nellore district.

5. But I think that this number ought not, without careful consideration, to be permitted to materially increase, because the condition of the ryots generally is reported to be good and free from indebtedness, and because the spring crops shortly to be harvested will bring in a fresh supply. To this favourable description the peasantry of the western parts form the only exception.

6. On the whole, I think that much more discrimination in regard to admission of people must in the first instance have been exercised in the Nellore district than in the ceded districts. The difference in the condition of the gangs in Nellore presented in this respect a marked difference as compared to the ceded districts, which is, so far, very creditable to the Nellore authorities. We may venture to believe that no undue expenditure on relief (to any appreciable amount) has been incurred in Nellore, which redounds to the credit of the Acting Collector, Mr. Sharp.

7. On the other hand, the occasional appearance, even among the ranks of the relief gangs, of persons in a reduced or depressed condition indicates clearly the need of a house-to-house visitation, more systematic than heretofore, in the villages throughout the district. This inference I pressed on the consideration of the Collector, who seemed quite alive to it.

8. No relief camps in the improved style established near Madras have been opened in this district, though charitable relief is being administered at several places. Proper camps ought, I think, to be opened without the least avoidable delay.

9. The relief works have been sometimes useful, consisting of excavation of irrigation channels and reservoirs, but have often been of doubtful value, such as opening out roads which the local funds will hardly be able to keep in repairs in future. The task-work, though perhaps in some places fairly well exacted, has, I fear, often been little better than nominal; the relief labourers have been employed too near to their homes, and the matter has been allowed to become too easy and attractive. Doubtless the Collector will try to remedy this; and some remedy has already been applied in the western portion of the district through the praiseworthy exertions of Mr. Underwood, Assistant Collector.

10. In proof of the objectionable attractiveness of the petty district works, I may adduce the extreme difficulty of transferring relief labourers from these works to the East Coast Canal—an excellent work in a salubrious position, remarkably suited for purposes of relief, and distant only 30 miles on the average. Able-bodied relief labourers on the district works are being ordered to proceed to the East Coast Canal, but they refuse to obey and go on “strike,” remaining for days and days out of work sooner than proceed. It is to be hoped that these difficulties will be overcome by the firmness and patience of the local officers and by the people themselves being awakened to a sense of the necessity.

11. I have in a separate minute recorded my views regarding the East Coast Canal. Rumours unfavourable to the salubrity of the operations on this important project have from time to time been spread. I found, however, the position of the works very salubrious, and the arrangements, sanitary, engineering, and others, excellent, and very creditable to the District Engineer, Mr. O’Shaughnessy, of whose practical ability I am disposed to form a high estimate.

12. If the commencement of the Sungum irrigation project (from the River Pennair 30 miles above the town of Nellore) can be sanctioned, as recommended in my separate minute, that will afford a further field for the profitable employment of relief labour.

13. Though the state of affairs regarding the relief of distress in this district may be generally pronounced to be favourable, yet there is this cardinal defect, that although the district has the very best relief work in all Southern India (the East

Nellore district. Coast Canal) running through it, still the relief labour of the district is not brought to that work to anything like a sufficient extent. The management of this particular matter is the primary point to which the attention of the Collector should be given.

No. 170.

No. 139.

LIII.—MEMORANDUM on the Nellore District, visited by SIR RICHARD TEMPLE from the 27th February to the 1st March 1877.

From North Arcot, Sir Richard Temple entered the Nellore district, proceeding thither from Triputtty *via* Kalustri and Goodoor. At the last-named place he was met by the Collector, Mr. Sharp, C.S., and after inspecting the relief labourers there, drove into Nellore on Tuesday, the 27th February. The next day Sir Richard visited the East Coast Canal works at Maipad, Korutoor, and near the Pennair River, with the Collector and Mr. O'Shaughnessy, the District Engineer; there he also met Mr. Stevens, who is employed on the canal works. About 8,000 relief labourers on the canal, and in the evening some hundreds more on works near the Pennair anicut at Nellore, were inspected. On Wednesday night Sir Richard left Nellore, with the Collector and District Engineer, reaching Nellarpalem the next morning. Here he saw the tahsildar of the Atmakur taluk and inspected about 4,500 relief labourers who had been collected there by previous arrangement. Continuing his journey to Nandeveram, he met there Mr. Underwood, C.S., head assistant, who was on tour in the western taluks. Mr. Underwood accompanied Sir Richard, after seeing the labourers at Nandeveram, to Murripad, where more gangs were drawn up. From Murripad Mr. Underwood returned; Sir Richard and staff proceeded in palanquins by the Dornel, Ghât, Budvail, and Sinhout to the Wontimetta railway station in the Cuddapah district. At Nellore Sir Richard also met Mr. Goldingham, C.S., District Judge, and Mr. Christie, District Superintendent of Police.

2. The following facts were ascertained by inquiry, chiefly from the Collector, Mr. Sharp, C.S. :—

The district of Nellore has an area of 7,150* square miles, including zemindary tracts, and contains a population of 1,374,012 persons, according to the census of 1871. It is divided into nine Government taluks and four zemindary divisions, the extent and population of which are shown in the margin. Many zemindary villages, however, are scattered in all the Government taluks, except in Nellore and Rapur.

* In the Nellore district manual it is stated to be 8,751 square miles.

	Sq. miles.	Population.
Government taluks	4,626	897,845
Venkutgiri zemindary	1,853	348,970
Kalustri	526	100,866
Chundy	124	21,990
Mutyalpad	21	4,941
	<u>7,150</u>	<u>1,374,012</u>

3. The area of land in the Government taluks cultivated with the several food-grains, according to the returns sent to the Board of Revenue for Fusli 1285,

was 884,852 acres, and the statistics of the important grains sown are as under :

Area of crops sown in Fusli 1285.
Acres.

Rice	200,910
Jouna or cholum	360,063
Ragi (small millet)	41,327
Luzza	63,381
Aruga	74,361
Varigalu	115,316
Pulses, &c.	29,494
Total	<u>884,852</u>

The current year's details of *crops sown* are not to hand as yet, but, speaking generally of the whole district with respect to the cultivated yield, there is an almost general failure of wet crops, with the exception of isolated patches here and there, under wells, under some of the Pennair River channels, and spring-fed ponds. A great part of the wet area was not cultivated this year, owing to the drought, and the sowings in many places were fruitless. As regards dry crops, those cultivated under wells have grown fairly, while the yield on those depending entirely on rain varies from nothing in some parts of the upland taluks to four annas or one-third of the average standard estimate. It must be, however, stated that a fair out-turn is expected in a few villages of Ongole in the north of the district. The average yield of purely "dry crops" for the whole district may not

be more than three annas. The rain-fed tanks in the district are almost entirely dry, while those under the Pennair anicut received but a scanty supply, so that cultivation under them was unsuccessful. Nellore district.

4. Of the total holdings of nearly 766,960 acres under the head of "dry" lands, only an area of 2,24,433, or 29 per cent., have been actually cultivated, and the Government demand on this area is only Rs. 2,98,265. Besides the poor state of the crops in general, the many important and valuable "kanchas" or pasture farms are devoid of fodder.

5. The rainfall of this district, from the month of April up to the end of January, was very light, as will be seen from the following details:—

	In.	Cts.
Average of four years to Fusli 1285	37	40
Average rainfall for Fusli 1285, from 1st April 1875 to 31st March 1876	27	29
Average rainfall for Fusli 1286, or from 1st April 1876 to 21st January 1877	11	35

Portions of the district feel the effects of the different monsoons which sweep in from the south-west and north-east, Udaigiri and Kanigiri receiving less than any other part of the district.

6. Nellore suffered from famine in the years 1832, 1854, and 1866, but the scarcity was not so severe as in the present year. The harvest in the year 1875-76 was on the whole poor and much below an average yield for nearly the whole district, especially as regards wet crops. The rainfall of that year was only 26 inches 49 cents., against 44 inches 32 cents of the previous year. The year Fusli 1284 was marked by floods, when many important large tanks and river channels were breached, chiefly in Atmakur and in the principal rice-growing taluk, Nellore, on account of the Pennair floods. The two bad years succeeding the year of the floods have evidently tried the resources of the district generally. In ordinary good years the produce of the country not only supports Nellore itself, but much grain is generally exported both by land and sea to other districts.

7. The condition of the ryots and labouring classes is good in ordinary years. Many of them formerly acquired a good deal of wealth from the sale of indigo, rice, &c., but in Kanigiri and Udaigiri taluks the soil is very poor and the ryots proportionately so. The ryots of the Coast taluks are far better off than those of the western upland ranges. The number of pattadars registered as paying direct revenue to Government is 95,710; of those, 8,627 own pattas of Rs. 50 and upwards, and 87,083 below that amount. The actual cultivators and inamdars, with their families, amount to nearly five-eighths of the entire population of the district. The majority of the population of the district is agricultural, and the *bonâ fide* labouring classes who depend solely upon labour may be estimated at about a sixth of the population.

8. The markets of Nellore, Ongole, and most of the towns of the district are now well supplied with rice. The extraordinary demands of the western districts have much reduced the district stock. The unusually high prices have induced merchants and others to purchase and import grain both by sea from Cocanada and other places from the north, also by the East Coast Canal, and by land from Madras and from Guntoor, &c. Competition among the merchants has now resulted in a slight fall in the price of grain. The present prices of grain, as compared with ordinary prices, in seers per rupee, are given below:—

	1st Week, February.	2nd Week, February.	Average for the last six Years, up to January.
Rice	8·	8·36	16·67
Cholum	9·18	9·24	24·42
Ragi	9·57	9·82	27·39
Cumbu	9·58	9·12	19·33
Wheat	6·87	7·	10·17
Gram	8·33	8·65	18·79

It should be remarked that cholum, cumbu, and ragi are not easily obtainable in the local markets. In the upland taluks of the district the prices range one seer dearer than in Nellore itself; but owing to the public competition noticed above, and partly, the Collector thinks, owing to the example set by Government in importing grain by sea, prices fell. The country ryots send in their carts to Nellore and make purchases both for their own consumption and for purposes of trade. There is little fear that the supply will fail. Recently it appeared necessary to make special arrangements to purchase for the western taluks, but trade generally, the Collector thought, was in no way interfered with by this undertaking. The merchants of Nellore were ready enough to supply rice in Nellore itself, but were unwilling to cart it to the western taluks. This

Nellore district.

was the reason assigned for buying and transporting the grain already purchased, in anticipation of further want in the western taluks.

9. Owing to the scantiness of produce in Fusli, years 1285 and 1286, and exportation, it is feared that the local stocks in hand are small, and no great quantity can be available for sale, as seed-grain is wanted for the next Fusli.

10. The affected tracts of this district are now relieved to a great measure by the many relief works already opened. The relief works consist chiefly of making new roads, river embankments, and repairing Government irrigation courses. Wells are either being newly sunk or repaired wherever water may be scarce, and the East Coast Canal already employs about 300,000 coolies, a few of whom are from the ceded districts as well as Nellore.

11. The following return shows the numbers employed on the 10th February in the several taluks :—

Taluks.	No. employed.	Per-centage to the Population.
Gudur - - - - -	3,827	3
Rapur - - - - -	2,783	4
Nellore - - - - -	4,039	2
Atmakur - - - - -	5,662	5
Kavali - - - - -	5,610	7
Udaigiri - - - - -	13,111	13
Kandukur - - - - -	8,250	6
Kanirgiri - - - - -	6,299	5
Ongole - - - - -	1,526	1
Zemindary - - - - -	5,899	2
	57,006	4
East Coast Canal - - - - -	18,045	

If it be remarked that as the per-centages of population employed on relief work is very low, the district on the whole must be in a fair condition, it is answered that the idea of supporting himself as a coolie is held to be demeaning to a Nellore ryot. Malas and Madigas, who are in general exceedingly poor and have no such pride, form the majority of the present labourers. As there is no prospect of rain for the present, the numbers are expected to gradually increase. Task work is now exacted on the East Coast Canal range only, but in the remaining parts of the district the ordinary wage system is in force, or was up to a recent date. The names of all the labourers are duly registered by the subordinate officers, some of whom come from the Survey Department, others from the Settlement, and some have been temporarily appointed. All the tahsildars and some of the taluk subordinates are now supervising the relief works, and the divisional officers, moving about frequently, exercise supervision over them all.

12. The following are the rates of wages now paid or about to be paid in the district :—

	*1st. As. P.	2nd. As. P.
For adult males - - - - -	1 6	2 0
„ females - - - - -	1 4	1 6
Children above seven years of age - - - - -	0 9	0 10

* For lower standard of task-work, which is being gradually introduced.

The total expenditure up to the 17th February on relief works is stated to be Rs. 3,84,363, and on gratuitous relief, Rs. 26,406. The number fed gratuitously on that date was 11,025. Relief labourers were in the beginning employed solely on road works from want of professional assistance, but with increased facilities for supervision, efforts are now being made to carry out irrigation works in communication with the District Engineer, who has sent in his proposals for repairing many tanks, and as each work now under progress may be completed, irrigation works will be gradually undertaken. But it is hoped that by far the larger part of the able-bodied labourers will be gradually drafted to the East Coast Canal.

13. At first relief was afforded at Nellore at the poor-house. Objections were found to this plan. Three different relief houses were then opened in the outskirts of the town. These by their proximity to the town attracted undeserving recipients. To lessen the risk of disease, and to prevent imposition, two large relief camps have now

been opened, one on the north, the other on the south of the town. Superintendents on Rs. 40 and 30 respectively a month have been appointed to supervise the cooking and distribution of food, and separate sheds have been erected for accommodating the helpless, sick, cholera, and small-pox stricken paupers. There are in all 18 relief houses throughout the district. No attempt has yet been made to secure the people being detained in the camps, but the plan of compelling them to eat their food in the camps is being introduced. The taluk relief houses are under the direct superintendence of either a tahsildar or deputy tahsildar. The pauper recipients get their food only once a day, at the following rates:—

Each adult	-	-	-	One pound of uncooked food.
Children under 14 years	-	-	-	Half ditto, with salt.

14. The condition of the cattle is very poor. Very little fodder is now available as pasture. The harvest of ragi and cholum may relieve the sufferings of the cattle to a certain extent. The tahsildars and many ryots state that one-fourth of the number have already died from starvation, and that as many more are likely to die. Every effort is now being made to feed the most valuable cattle, and attempts are being made to use prickly-pear as fodder. Many ryots have sent their cattle to the Kistna district, Viligondas and Nanamalla hills, but the absence of water in these hills is a drawback. Locally, efforts are being made to keep the cattle alive by giving palmyra and date leaves and green leaves of trees, specially in the western taluks.

15. Except in the beds of rivers, where water can be obtained by sinking shallow wells, and in villages on the seaboard, drinking water is procurable only with difficulty everywhere, and more especially in the western taluks, Kanigiri, Udaigiri, Rapur, Darsi, Todeli, and Venkutgiri. If no rain falls for the next two or three months, the distress for water is expected to be very great. On both sides of the road between Goodoor and Nellore many large pools of water were to be seen. Efforts are now being made to improve and add to all sources of supply from funds placed at the disposal of the Collector by the Board of Revenue, and the digging of ponds and wells is to be undertaken from the jungle conservancy funds wherever emergent. Special consideration is also given to the wants of Malas, &c., who are generally prohibited from drawing water from the ordinary supply wells. The Board's orders regarding the advances to be made for wells have also been published, and many advances have already been granted by the tahsildars.

16. The Rajah of Venkutgiri has promised to spend two lakhs on relief works. Up to this date he is said to have spent Rs. 13,000 annually. The Rajah of Kolustri has done nothing for the Pamur range, which is south of Kanigiri, in a poor and distressed part.

17. Under the above circumstances it is feared that the average revenue will fall short in the Government taluks, and that even the realisation of arrears must be postponed to relieve the present distress of the poorer ryots. It is proposed to give liberal remissions under the head of "wet" lands, and some partial remissions in "dry," wherever the case is thought really emergent. Though the abkari contractors have suffered to a certain extent by low rates, the maximum guaranteed to Government is now being levied from them without the least difficulty. There is, it is said, a slight fall in their profits only, and that the Government demand should not therefore be foregone. In consequence of the loss of fodder and pasture, combined with the wants of the Jail and East Coast Canal authorities for palmyra leaves, trees, &c., the number of the palmyra and date trees is stated to have been much diminished, and it is proposed to reduce the demand on the toddy revenue. This will be considered in due course after obtaining the divisional officers' reports.

18. In the Collector's opinion the number of local applicants for relief work may reach 100,000 at the worst time. It is at present probably 70,000, viz., 55,000 on local relief works + 15,000 relief labourers out of the 30,000 on canal. The Collector calculates the remissions on last year's figures thus:—

			Acres.	Assessment.	Probable remission or suspension.
				Rs.	Rs.
Dry	-	-	766,960	8,97,790	5,98,500
Wet	-	-	193,255	10,24,514	8,19,600

19. Sir Richard Temple has separately recorded his views on the East Coast Canal and the "Sungun" irrigation project.

Nos. 141. No. LIV.—MINUTE by SIR RICHARD TEMPLE, reviewing his former Estimate of Famine
170. expenditure in the Madras and Bombay Presidencies.

Coimbatore, 6th March 1877.

Revised estimate of cost of famine in Bombay and Madras.

I have been invited by the Government of India to submit a revised estimate of the cost to Government of the famine in the presidencies of Madras and Bombay, so far as known facts and the inferences therefrom deducible may enable me to do so, with an intimation than any figures of mine must be submitted immediately, if they are to be of any use, inasmuch as the financial statement by the Government of India may be coming forward by a very early date. I therefore on receipt of this instruction, despatched immediately a telegram on the 3rd March, to the effect that, owing to the actual accounts of the month of February and the beginning of March being so much more favourable than had been anticipated, to the expectation of the spring harvest, and other favourable circumstances, the estimates given by me on the 5th and 13th February* must be reduced for the total of the Madras and Bombay Presidencies as follows:—

*Nos. 52, 79.

Estimates of 5th and 12th February.		Estimates of 3rd March.	
	£		£
Expenditure	4,180,000	Expenditure	3,336,000
Loss of revenue	2,115,000	Loss of revenue	2,115,000
Total	6,295,000	Total	5,451,000
Difference, less on the 3rd March			£844,000.

To this total must be added 180,000% under the heading of Military, as shown by the telegram from the Government of India, making up the grand total to 5,631,000%. From this, however, must be deducted 350,000% on account of extra traffic earnings on guaranteed railways as shown by telegram from the Government of India, making the net grand total 5,281,000%. But from this sum, it is still my opinion that it is proper to deduct the amount of probable recoveries of land revenue in future years, viz., 1,295,000%, which would make the net cost of the famine 3,986,000%; and this I submit as my revised estimate.

2. It was also stated by telegram that, whereas the estimate of the 5th February showed the maximum number of persons expected to come on relief as 1,840,000, the present estimate showed a maximum of only 1,196,000 persons.

3. To-day a memorandum is being despatched showing in detail the data on which the above statements by telegraph were founded.

4. In the estimate of the 5th February, it was stated that the main factor was the number of persons expected to come to the relief works. The maximum in April, 1,840,000 persons, was obtained from figures given me, district by district, by the Collector mostly after full conversations on the subject, which took place on various dates immediately following the 14th January. In these conversations much allowance was made for the reduction of the then existing numbers and the restriction of fresh admissions to the works in accordance with the principle which I knew the Government of India to have in mind and intention, and which I explained to the local officers. These principles, when thus explained to these officers, verbally, certainly seemed to commend themselves very much to the judgment of every Collector I met. And all the Collectors, almost without exception, seemed anxious to give effect thereto. I carefully avoided giving them authoritative advice or instructions, for which they were to look to the Madras Government alone. I confined myself to conferring with them and explaining to them for their own consideration principles and policy and the results of experience. I believe that in most cases they themselves, from their own observation, were prepared for these views, more or less, and proceeded to give effect thereto under the responsibility vested in them by their own Government. At the same time I submitted the same views officially to the Government of Madras on the 19th January, together with practical recommendations for system and economy.

5. On the 25th January the instructions of the Government of India (bearing date the 16th January) were received in the Madras Presidency, in which the above-mentioned principles were authoritatively laid down. The publication of these instructions doubtless stimulated all the local officers to further efforts in the direction of economy.

6. About the same time it appeared that the Madras Government had themselves formed the conclusion that the first outbreak of famine having been successfully met some systematic restrictions must be introduced. On the 28th January, they intimated to me their intention of adopting the substance of the recommendations which had been

made to them by me officially. On the 31st January, their orders were officially issued to the district officers, and again the efforts of these officers were stimulated in the direction of a just and reasonable economy.

7. I have since travelled about from place to place in the distressed districts, seeing how far the orders of the Government of Madras were or were not being carried out, avoiding, as before, the giving of any instructions or even of advice, but showing the local officers how they could best give effect to the orders of their own Government.

8. It seems necessary to state the course of the procedure in order to show the reasons why I venture upon an estimate lower than that given a month ago.

9. The effect of all this upon the numbers upon the relief works may be thus seen. On the 9th January the total numbers stood at 1,061,000. The number had been increasing weekly ever since the beginning of December. The beginning of January was thought by every one to be only the beginning of the trouble. No limit of relief had been in the first instance indicated, and no principle of restrictions had been prescribed, except the labour test, upon which reliance was placed. The people were availing themselves of the privilege to such an extent that ere long half, or more than half, the population of the ceded district and Kurnool seemed likely to come on relief. That alone would give two millions of persons, and the districts below the Ghauts seemed likely to yield another million. The necessity of making some fresh rules was forcing itself on the attention of the authorities. In the first instance, that is, in November and December, it was deemed best to let all have work who might ask for it, and to watch the result. But by January, the result showed that a rule must be promulgated to the effect that employment should not be given to those who seemed able to support themselves.

10. After making much allowance for the introduction of economy the sum of the calculations by the various Collectors showed a gradual increase, week by week, till the maximum of 1,840,000 was reached. Without such allowance for economy, the total would undoubtedly (according to the practice which was obtaining in the beginning of January) have reached two millions before April, and would have exceeded it after that date.

11. But, instead of increasing, the January number of 1,061,000 has been falling week by week, until the latest returns of February show only 713,000. The Madras Government and its officers may be congratulated on this result, considering the good condition of the people generally, the absence of mortality (subsequent to the mortality which occurred in some places at the outset before the introduction of the new rules), and the effective manner in which the distress has been met. In the face of this, however, it is impossible to maintain the estimates, which I had been before obliged to present for March, namely, 1,480,000; especially as there is a spring harvest ripening in several of the distressed districts, to an extent greater than the original anticipation. By parity of reasoning, it has become necessary to reduce the estimate for April and the subsequent months in the manner described in the memorandum, which will speak for itself. As time did not admit of a further reference to each Collector, it was thought best to make the alteration rateably all round. But although there is no present reason to apprehend that any district will show actually more than what is shown in this revised estimate, there is reason to expect that some districts will show even less, such as Cuddapah, North Arcot, Coimbatore, and Tinnevely. On the whole, however, I have deemed it better to submit the revised estimates in its present form, believing that it has within itself a margin to cover unforeseen contingencies.

12. The same remarks apply, *mutatis mutandis*, to the heading of charitable or gratuitous relief.

13. While system and economy have been considered, every precaution has been taken to prevent those considerations causing relief to be withheld from those who really need it.

14. From the very day of entering the Madras Presidency, I have been constant and urgent in pressing on all concerned the duty of saving human life from starvation; of preserving people from such emaciation as might be dangerous to health; of not only admitting all deserving and needy persons who might apply for relief, but also of searching for and relieving all those who, being in such need, might from any cause fail to apply for relief, and further of making this search in the most comprehensive manner, village to village, and house to house. This is the practice of humanity in relief operations in the highest and strictest sense of the term. This is the discriminating charity which, while rejecting those who are not in real need, succours those who are in such need, and takes care that none of them shall escape observation or fail to receive assistance. This most important subject was officially brought forward on the 16th January (two days after my arrival), again on the 19th January, on the 4th February,

Revised estimate of cost of famine in Bombay and Madras.

Revised estimate of cost of famine in Bombay and Madras.

on the 5th February, on the 8th February, on the 9th February, on the 11th February, on the 14th February, on the 26th February, on the 5th March, on the 6th March. This subject has formed the topic of more official representation on my part than any other subject whatever. And several of these representations are couched in the most forcible terms which I am able to employ. In every place which I have visited, and to every relief officer, European or Native, whom I have met, the matter has been explained by me in practical detail, and all those concerned have been shown exactly how they can most effectually compass this paramount object. In short, everything that can be thought of has been and is being done in this respect.

15. I can bear witness that this matter has always been thoroughly understood by the Madras Government and its officers, whose humane intentions can hardly be surpassed.

16. As regards the Madras Presidency, I must here reiterate what has been stated on previous occasions, that the revised estimate assumes that the usual spring showers of April be vouchsafed in Southern India, and that the checks and restrictions ordered by the Madras Government on the 31st January be steadily and faithfully maintained. If there be failure in any of these respects then the estimate may become exceeded, more or less seriously.

17. As regards the Bombay Presidency, I represented officially the expediency of economy in several respects on the 12th January and on various subsequent dates. The reduced estimate recently framed by the Government of Bombay has been embodied in my general estimates.

18. In respect to the searching out and relieving of all cases of serious distress, I addressed the Government of Bombay officially on the 12th January, and have repeated these representations on several subsequent dates. The Government have, I believe, been from the beginning fully alive to this consideration.

19. In the revised estimates I have adhered to the recommendation submitted with my minute No. XXX. of the 13th February, regarding the suspension, and not the remission, of only the land revenue from the dry or unirrigated lands in Southern India, because I find that so many of the most experienced Collectors in both the Madras and Bombay Presidencies are in favour of this plan. Here again the revised estimate assumes that the coming rains will be propitious and the harvests of the next season will be abundant. If there shall be failure in these respects then the estimate will be greatly disturbed.

No. 170.

No. 141.

LV.—MEMORANDUM of the REVISED ESTIMATE of the probable COST of the FAMINE in the BOMBAY and MADRAS PRESIDENCIES, with respect both to RELIEF EXPENDITURE and LOSS of REVENUE, by MR. C. E. BUCKLAND, Private Secretary to SIR R. TEMPLE.

It has now become possible to prepare from the figures available for the month of February a revised estimate, showing both the anticipated loss of revenue and the expenditure on relief in the Bombay and Madras Presidencies.

2. *Relief Works*.—In paragraph 5 of Mr. Bernard's memorandum attached to Sir Richard Temple's minute, No. XXVIII., of the 5th February, the estimated numbers on relief works for the six months from February to July inclusive were thus given :—

Total number of labourers in February	-	-	-	1,228,000
„ „ March	-	-	-	1,480,000
„ „ April	-	-	-	1,840,000
„ „ May	-	-	-	1,530,000
„ „ June	-	-	-	795,000
„ „ July	-	-	-	310,000
				<u>7,183,000</u>

Now the actual numbers on relief works in Madras were, according to the returns I have seen—

On the 10th February	-	-	-	-	868,423
„ 17th „	-	-	-	-	759,275
„ 27th „	-	-	-	-	713,821

which give an average of 780,500, and to make allowance for the higher number at the beginning of the month, the average for the whole of February may be taken at 800,000. The Board of Revenue, in their report for the week ending the 17th ultimo,

stated that the scale of wages ordered in Government order of 31st January 1877, No. 329, had not yet begun to take effect, and that the time for the introduction of the new scale must be counted from the receipt by Collectors of Government order of 12th February 1877. It will be safer for the purposes of this estimate not to assume that the orders of economy had taken effect to any great extent during the month of February. If this be granted, the 800,000 labourers of February must be considered to have cost an average of Rs. 3 for that month (*see* paragraph 6 of Mr. Bernard's memorandum, to which allusion was made above). The difference between the estimated number for February, viz., 1,228,000, and the actual number, viz., 800,000, is 428,000, *i.e.*, about 35 per cent. on the estimated number, 1,228,000.

3. It is not expected that the number on the relief works will rise in March above the average number given for February, 800,000; it is evident that even to attain that number a rise of over 80,000 must take place; but the settled tendency of late has been downwards. Instead, therefore, of the estimated number for March, viz., 1,480,000, it will be fair to take the number 800,000 as not likely to be exceeded.

4. For the remaining months, April to July inclusive, it will be safest to calculate upon the same per-centage of reduction in the estimated numbers that has actually taken place in February in the number for that month, viz., 35 per cent. on the estimated numbers. While, on the one hand, due allowance has been made in the previous estimates for the more trying circumstances of the months, April–July; on the other hand, the scrutinising of the gangs will be more strictly carried out, as experience is gained, as tests are enforced, and supervision improved; add to this that the district of Tinnevely, which was thought likely to have 100,000 labourers in April, and 50,000 in March, had on the 27th February only 1,295 persons on relief works; moreover, the improved prospects of the ragi crop in parts of the districts of Cuddapah and North Arcot have to be considered; and on the whole it may be permissible to take the same per-centage of reduction of numbers of labourers for the months April–July that has actually taken place in February, viz., 35 per cent. on the estimated number of labourers for the month. The result of this calculation will be found from the appended statement to give a total of 3,708,750 labourers from March–July inclusive; and as it may be assumed that the Government orders for the reduction of wages will have generally come into force from the beginning of March, this number of 3,708,750 labourers may be estimated to cost Rs. 8,653,750 (at the average rate of Rs. $2\frac{1}{3}$ a person for each month, according to paragraph 5 of Mr. Bernard's memorandum).

5. The cost of the labourers' wages for February being $800,000 \times \text{Rs. } 3 = 24,00,000$, and for March to July Rs. 86,53,750, the total cost of the relief work wages in Madras for the six months from February to July amounts to Rs. 1,10,53,750, say Rs. 1,10,53,000. These figures compared with the same item in the previous estimate, viz., Rs. 1,79,00,000, show a reduction of Rs. 68,47,000, *i.e.*, 684,000*l.*

6. In the Bombay Presidency, according to the Bombay Government's letter, No. 109a-460, dated 24th February, to the Government of India, the revised estimate of expenditure upon relief works, charity, &c. amounts to 116 lakhs; which sum, being compared with the former estimate of 126 lakhs, shows a saving of 10 lakhs in the Bombay expenditure.

7. *Gratuitous relief.*—The number of recipients of gratuitous relief amounted at the beginning of February to about 60,000 persons, *see* paragraph 9 of Mr. Bernard's memorandum. Whereas in that same paragraph 100,000 has been taken as the number of persons to receive such relief in February, the real number was on the 27th ultimo slightly over 40,000. If 50,000 then may be considered as the mean number of recipients of gratuitous relief in February, when 100,000 was the number estimated, a large margin for the increase in the recipients of charitable relief (which must occur as the supervision on relief works is more strictly enforced) will be left, if instead of a half, two-thirds (*i.e.*, Rs. 12,00,000) of the former estimate of the cost of gratuitous relief (*i.e.*, Rs. 18,00,000) are reckoned as the probable cost under the same heading. Thus the reduction in Madras will be six lakhs under this heading; and the aggregate of the probable saving under both headings is 744,000*l.* In Bombay the aggregate reduction under both headings of relief works and gratuitous relief has been given at 10 lakhs.

8. The figures will then stand thus:—

	£
The total relief expenditure for the Bombay Presidency	
was, according to the former estimate -	1,260,000
Deduct -	100,000
Revised estimate	1,160,000

Revised estimate of cost of famine in Bombay and Madras.

	£
The total relief expenditure for the Madras Presidency	
was according to the former estimate -	2,920,000
Deduct -	744,000
Revised estimate -	2,176,000
The total relief expenditure in both presidencies according to the revised estimate will be—	
In Bombay -	1,160,000
In Madras -	2,176,000
Total -	3,336,000

9. From the telegram received, it appears that the Government of India have taken the probable loss of revenue as 2,000,000*l.*, and have also debited to famine a charge of 18 lakhs (180,000*l.*) in the military department, an item which had not been previously included in Sir Richard Temple's calculations. These two items, added to the 3,336,000*l.* previously ascertained, give a total of 5,516,000*l.* On the other hand, the Government of India take credit for railway revenue amounting to 350,000*l.*; thus the net result would be reduced to a cost of 5,166,000*l.*

10. Sir Richard Temple's former estimate of the probable loss of revenue, which would occur if the Local Government shall promise remissions of the land revenue, amounted to 2,115,000*l.*, thus exceeding the estimate of the loss of revenue framed by the Government of India by 115,000*l.*; that is, the cost of the famine would be 5,166,000*l.* + 115,000*l.*, *i.e.*, 5,281,000*l.*

11. Sir Richard Temple's views on the important point of land revenue remissions were fully stated in the minute No. XXX of the 13th February and Mr. Bernard's memorandum which accompanied it. If those views meet with acceptance, it is not too much to hope that the sum of 1,295,000*l.* (*see* paragraph 15 of Mr. Bernard's memorandum) will represent the probable recoveries of land revenue in future years; and if this sum be deducted from the cost of the famine above given, *viz.*, 5,281,000*l.*, the net cost will be 3,986,000*l.*

12. This estimate, like the others, which have been framed and submitted by Sir Richard Temple, postulates that the checks which have been recently ordained for the reduction of expenditure will be maintained in full force, and that the usual showers in April and May will fall. It has not been overlooked that in such a district as Tinnevely, where severe distress was expected, it is a matter for consideration with the Board of Revenue whether the relief works should not be closed immediately, nor has the fact been disregarded that in some districts early spring crops are approaching maturity, which will before long afford work to the agriculturists, and a supply of food for a month or two to the population.

13. With respect to the distribution of the revised estimate of famine expenditure in Madras, *viz.*, 2,176,000*l.* between the years 1876–77 and 1877–78, the following statement may be offered in the order adopted in paragraph 11 of Mr. Bernard's memorandum appended to Sir Richard Temple's minute No. XXVIII. of the 5th February, thus:—

	Rs.
Relief works and other expenditure according to the Accountant-General's statement up to end of December -	37,25,000
Estimated expenditure on relief work wages during January -	31,17,000
Estimated expenditure on relief work wages during February -	24,00,000
Estimated expenditure on relief work wages during March -	18,67,000
Estimated cost of additional establishments and miscellaneous charges to 31st March 1877 -	6,00,000
Estimated cost of gratuitous relief to 31st March 1877 -	4,00,000
Cost of grain purchased by Government -	30,24,000
	1,51,33,000
Deduct cost of Government grain to be expended up to 31st March	7,22,000
Say -	1,44,11,000
	£1,441,000

For the year 1877-78. Rs.

Estimated expenditure on relief work wages, April to July 1877 -	67,86,000
Estimated cost of additional establishments and miscellaneous charges, April to July 1877 -	12,00,000
Estimated cost of gratuitous relief, April to July 1877 -	8,00,000

87,86,000

Deduct cost of Government grain to be expended, April to July 1877 14,44,000

73,42,000

£
1,441,000 Say - £735,000
735,000

Total estimate expenditure - £2,176,000

14. Some of the above figures require explanatory notice. The cost of the wages of relief labourers for February has been shown to be Rs. 24,00,000. For March the number of labourers given in the revised estimate is 800,000, who, at the average rate of Rs. 2 $\frac{1}{3}$ a month for each person, will cost Rs. 18,67,000,—

	Rs.
<i>i.e.</i> , for February -	24,00,000
for March -	18,67,000

42,67,000

The revised estimate of expenditure on relief works from February to July was given as Rs. 1,10,53,000. From this, deducting Rs. 42,67,000, the result is obtained of Rs. 67,86,000 as the revised estimate of cost of relief works from April to July.

15. For additional establishments and miscellaneous charges in the original estimate the sum of Rs. 18,00,000 was taken, as 10 per cent. on the original estimate of relief wages for the six months February to July (*see* paragraph 8 of Mr. Bernard's memorandum). These additional establishments and charges will not be materially affected by the variations in the numbers of relief labourers. Therefore one-third of the Rs. 18,00,000 may be estimated as the cost for the two months February and March; and two-thirds of the Rs. 18,00,000 as the cost for the four months April to July.

16. With regard to the gratuitous relief, in the revised estimate the sum of Rs. 12,00,000 has been taken as the cost. As in the preceding paragraph, this may be debited, one-third to February and March, and two-thirds to the four months April to July.

17. Similarly, in deducting as a set-off three-quarters of the cost of Government grain (as that grain will be used to pay labourers or relief paupers), it appears correct to credit one-third and two-thirds of the Rs. 21,66,000 to the years 1876-77 and 1877-78 respectively.

18. In the Bombay Government's letter, referred to in paragraph 6 above, the revised estimate of expenditure of 116 lakhs is distributed thus, viz., 47 lakhs to 31st March and 69 lakhs subsequent to 31st March.

STATEMENT referred to in paragraph 4 of the Memorandum dated 6th March 1877.

	Estimated Number of People on the Works during the Month of						Total.
	February.	March.	April.	May.	June.	July.	
According to minute of 5th February -	1,228,000	1,480,000	1,840,000	1,530,000	795,000	310,000	7,183,000
Revised estimate -	800,000	800,000	1,196,000	994,500	516,750	201,500	4,508,750
Difference -	428,000	680,000	644,000	535,500	278,250	108,500	2,674,250

No. 142.

No. 12,327 G.-243, dated Bangalore, 6th March 1877.

ORDER thereon* by the CHIEF COMMISSIONER OF MYSORE.

Order.—The wishes of the Government of Madras, that an officer of this Administration should be deputed to supervise the return of Mysore people to their own country,

Nos. 143.
221.

Mysore emigrants to return to their own country.

* V. Nos. 1, 6, 14, 35, 69, 91, 131.

will be complied with, and the Commissioner of the Nundydroog division is desired to detach Mr. Mahomed Ali, the Subdivision Officer at Chikballapur, Kolar district, to proceed at once, and in personal communication with the Head Assistant to the Collector of Bellary, ascertain the number of Mysore people receiving gratuitous or other relief from the Madras Government in the Hindupur, Madaksira, and Pennakonda taluks of that district. He will arrange for the return of all such as are capable of being moved into the several taluks of the Mysore districts adjoining, and, through the amildars of these taluks, provide means for deporting them from the Bellary district by easy stages, where food should be supplied. An advance of Rs. 500 should be made to Mr. Mahomed Ali by the Commissioner of Nundydroog to meet emergent requirements.

The Deputy Commissioners of Kolar, Tûmkûr, and Chitaldroog will instruct the amildars of the border taluks to comply promptly with the requisitions made upon them for the purpose by the Assistant Commissioner. Those who are able-bodied should be relegated to the special or other relief works in progress, and those who are physically unable to work should be properly admitted to the feeding kitchens, under arrangements to be made by the Deputy Commissioners and their Assistants.

Nos. 161.
221.

No. 143.

ORDERED—That the following letter be addressed to the Chief Secretary to the Government of Fort St. George, in reply to his letter above recorded :—

No. 12,335 G.-43, dated Bangalore, 6th March 1877.

From the OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER of MYSORE, to the CHIEF SECRETARY TO THE GOVERNMENT of MADRAS.

Mysore State
not prepared
to bear
charge of
maintaining
its subjects
who mi-
grated to
British terri-
tory,

I am desired to acknowledge the receipt of your letter No. 767 of 1st March, in which his Grace the Governor in Council again presses upon the consideration of the Chief Commissioner the proposal that the Mysore State should bear the charge of maintaining those of its subjects who have resorted to the frontier districts of Her Majesty's territory, either to seek relief on easier terms than they could obtain it in their own taluks, or to evade the payment of the land revenue.

2. While desirous of according the deference which is due to this expression by the Madras Government of their views, the Chief Commissioner is unable, for the reasons fully stated in my letter of the 15th ultimo, to assent to the grounds on which the demand for a contribution from this State towards the outlay incurred for relief purposes in the adjoining territory is based.

3. Mr. Saunders has no desire to advert to the causes which had, as he conceives, led many hundreds of the people in this province to migrate across the frontier, and which though to a certain extent conjectural as you remark, have received much confirmation from what is stated in paragraph 3 of Sir Richard Temple's minute dated 16th of February 1877. But it is important, I am to remark, as affecting the consideration of the equity of the claims put forward by the Madras Government, to remember that, while what may be fairly termed extraordinary inducements were held out to the people on the eastern frontier of the province to resort to the relief works and kitchens in the Bellary district, this migration was neither desired nor encouraged in the interest of this Administration, whose local officers were fully prepared to provide employment for all who needed it, and on terms which, though not so liberal as prevailed over the border, were well adapted to the then existing circumstances of the people.

4. With regard to the Wynad frontier, the inducements which led the people to migrate to that locality in larger numbers than usual were somewhat different, but, as the Chief Commissioner has reason to believe, notwithstanding all that was done by the local officers and by the returning emigrants to dissuade them from leaving the province, the people have persisted in moving into Wynad, as they have done into the coffee-growing districts of Coorg and Manjarabad, long after the demand for their labour had ceased, the cause must be found in the same desire which has operated throughout of evading task-work however light, as well as the endeavours which are still advisedly made to recover a fair proportion of the Government revenue.

5. It must be obvious in this view, that the duty of the Chief Commissioner lies in setting his face resolutely against any encouragement to these people to persevere in a course demoralising to themselves and injurious to the interests of this Administration, and as the means are available to all of this class, as explained in paragraph 6 of my letter

the migra-
tion being
neither de-
sired nor
encouraged.

of 15th ultimo, of returning by easy stages, their immediate needs being provided for *en route*, Mr. Saunders would again urge upon the consideration of his Grace in Council that the humane intentions expressed in your letter can be fulfilled without recourse to the measure of maintaining the subjects of this State at the expense of this Government.

Migration
from Mysore
to British
territory.

6. On the other hand, the wish of his Grace the Governor in Council, that an officer should be deputed from this province to supervise the return of the people to their own country, will be at once complied with, and I am to state that Mr. Mahomed Ali, the Assistant Commissioner in charge of the Chikballapur Subdivision of the Kolar district, has been directed to proceed to Pennakonda, and after personal communication with the Head Assistant Collector, to arrange for the removal to their own taluks of all persons belonging to Mysore who may be receiving Government relief in the three taluks of Hindupur, Madaksir, and Pennakonda.

The Chief Commissioner will be willing, on receipt from you by telegraph of specific information as to other localities in which Mysore people are being maintained on Government works or relief houses, to make similar arrangements for the purpose of inducing their withdrawal.

7. The Chief Commissioner anticipates, however, that the number of "Mysore paupers" remaining in the Hindupur and other bordering taluks of the Bellary district will be small, for, on referring to the returns furnished to the Madras Government under date the 30th January last, and published in the Madras newspapers, it appears that between the 23rd and 30th January, the number on relief works and gratuitously fed in the Bellary district had fallen from 393,400 to 377,147, and that the Collector had officially reported that the reduction in these numbers was due "to a large number of Mysore coolies being sent away from Hindupur, Madaksira, and Pennakonda." It was further stated that there was a decrease of more than 11,000 in the numbers gratuitously fed, chiefly in Hindupur, "where Mysore paupers have been sent back." This return, it will be observed, is of a more recent date than that of the Head Assistant Collector's letter, No. 34, dated 23rd January 1877, an extract from which is appended to your letter under reply.

8. A more recent return, moreover, shows that between the 10th and 17th February 1877, the numbers on relief works in the Bellary district had been reduced from 344,343 to 307,509, and from the fact which has been recently reported, and communicated to you in my letter No. 12,055—G. 42, dated 27th February 1877, that the tide of immigration has now set in from the Bellary district into the neighbouring taluks of this province, the Chief Commissioner is probably right in assuming that there must be comparatively few of the Mysore people still remaining in the Madras districts.

9. As regards those who are reported to be "hanging on" at the Wynad coffee estates, the Chief Commissioner has no information as to the numbers congregated there, but as ample provision has been made, as already stated, for finding employment, as well as other needful relief for them in the Mysore and Hassan districts adjoining, the Government need feel no apprehension as to the consequences of withholding from those people the means of idly prolonging their stay in those localities. As large importations of grain continue to be made into the Wynad weekly from the south-western taluks of the Mysore district, it is evident to the Chief Commissioner that the supposition expressed by the District Engineer of Malabar as to the cause of the unwillingness of Mysore subjects to return to their own country is an erroneous one.

10. With reference to the last paragraph of your letter, I am desired to explain that the notice alluded to was issued by the Commissioner of the Ashtagram division, and had reference solely to works in progress in the Mysore and Hassan districts comprised in that division.

No. 144.

No. 170.

No. LVI.—MINUTE by SIR RICHARD TEMPLE, reviewing the objections of the SANITARY COMMISSIONER, Madras, to the reduced scale of wages.

Coimbatore, 7th March 1877.

I have examined and considered, with the attention due to the opinions of an officer so highly qualified and accomplished, the letter from Surgeon-Major Cornish, Sanitary Commissioner of Madras (addressed to the Chief Secretary to the Madras Government), in which he records various professional objections to the reduced scale of ration directed

The reduced
scale of
wages.
Reply to Dr.
Cornish.

The reduced
scale of
wages.

to be adopted by that Government in its Resolution of 31st January last. The particular point to which he objects is the allowance of 1 lb. avoirdupois per diem to an adult labourer (not performing severe task work), plus half anna in cash. Inasmuch as his views, if these were to be adopted without adequate deliberation, might involve a large and unnecessary expenditure of public money, I would submit, for the consideration of the Governments of India and Madras, a few remarks on these objections.

2. Into the purely professional part of his arguments I cannot enter, further than to note that, while no doubt abstract scientific theories of great value on the subject of public health are of modern growth, the Indian population with which we are now dealing have lived for centuries in disregard of them, and practically at the present date the poorer classes, even in countries much more civilised than India, do not actually obtain either in food, lodging, or ventilation the amount declared by scientific men to be necessary. I would further note particularly that most of Dr. Cornish's observations refer to Europeans living in a cold climate, where waste is greater, and largely exceeding the Natives of India in average weight, requiring therefore more food. The Edinburgh inquiries which he cites, however applicable to European cases, and however valuable in the abstract, are not strictly and exactly applicable to the poorer classes of the Madras Presidency.

3. The practical question, however, is this. Can, and does, the new scale of wages suffice to keep the people with whom we are now dealing in fair health under present conditions and circumstances? More than this, this Government has declared itself unable to undertake.

4. Dr. Cornish seems to object, on the ground that a diet sufficient to sustain a man's life when at rest may be "wholly inadequate to his needs when employed on tasks necessitating severe physical exertions," and again, that "a man engaged on task labour

NOTE.—I was informed at Vellore that indigent adults admitted to the relief camps in consequence of their inability to work, have improved considerably on a ration of a pound a day. Dr. Fox, Civil Surgeon, and Captain Harris, the Relief Officer, were agreed on this point.

flesh on a pound a day.

and paid at the rate of 1 lb. of grain and half an anna in cash" cannot "procure a sufficiency to eke out the defects of his grain ration." I do not know whether Dr. Cornish would admit that 1 lb. of grain is sufficient to maintain a Native of India; in a state of rest, perhaps, he would. The evidence of relief camps in the Madras Presidency, however, shows that a Native at rest can gain

5. But in paragraph 5 he says that the "combined testimony" of numerous observers showed that "the maximum grain allowance of a man in health and in work was not less than 24 ozs." or $1\frac{1}{2}$ lbs.

6. He apparently assumes that by the new scale a man cannot obtain $1\frac{1}{2}$ lbs.; but in the first place it is to be observed that at present prices throughout the greater part of the distressed district a man can, with the half anna which he receives in cash, buy an extra half pound of grain a day and still have a small margin over for condiments, that is, he earns sufficient to allow him the minimum quantity requisite to keep him in health while at work. More than this, I submit it is not in the power of Government to do.

7. Let it be assumed, however, that a man receives the 1 lb. plus the half anna, which will give him something over in grain, together with something for condiments. Then there is one defect in Dr. Cornish's line of argument which appears to me to invalidate his conclusions. I consider that the particular misapprehension to which I am about to advert renders his remarks inapplicable to the state of things as at present existing in the distressed districts. His argument is, that the present rate of wages (equal to 1 lb. in grain with half anna in cash), "will not permit of severe labour or task-work," is insufficient for men "employed on tasks necessitating severe physical exertion;" thereby implying that the bulk of the relief labourers in the Madras Presidency are employed on such tasks. This, however, is so far from being the case that the general condition of the people on the works approaches much more nearly to one of rest than to one of severe physical exertion. There are probably very few out of the thousands employed by Government who do nearly as much work as they do in ordinary seasons for their own support. In short, the reduced scale (1 lb. and a half anna) is not applied to persons undergoing severe physical exertions, but to persons who are on light work or are comparatively at rest. In many places task-work has not yet been introduced; in many others it is only nominally enforced, and where it is in actual operation the amount of labour exacted is extremely light.

8. It must be remembered that in the Madras Government Orders of 31st January, two rates of working pay are laid down, and that all persons who do work amounting to 75 per cent. of the Public Works rates receive 1 lb. of grain and one anna in cash; while those who receive a pound of grain plus half an anna (who alone are referred to by

Dr. Cornish) are only required to render task-work at half the Public Works rates. Now the Public Works labourers are paid by piecework, and no definite task is asked for; they do as much or as little as they like, and are paid accordingly. The reduced scale of wages.

9. The result is that those who really undergo the severe physical exertions described by Dr. Cornish do actually receive wages equal to $1\frac{1}{2}$, perhaps even 2 lbs. a day, which is tantamount to what he recommends. It is only for those who do not undergo such exertion that the lower scale recommended by me and ordered by the Government of Madras is intended. Practically, at this time, by Public Works rate is meant the amount of work done per rupee, and relief labourers on the first standard are expected to do three-quarters as much for a rupee as common labourers; that is, supposing the Public Works Department rate for earth-work to be eight cubic yards per rupee, then relief labourers of the first class have to do six cubic yards for the same money; and two annas being taken as the minimum wage on which they can be maintained in health, three-quarters of a cubic yard is the task assigned to enable men in this class to earn their two annas. It is considered (and this is in accordance with Dr. Cornish's views) that persons doing less work than this can live on less, so while the second class labourer does only half a cubic yard of earth-work daily he receives in return $1\frac{1}{2}$ anna. But, as observed, the Public Works rate is not a task but a scale, and ordinary labourers are not content to earn two annas daily by excavating one cubic yard, but, as a matter of fact, earn much more than this. I was informed by Mr. O'Shaughnessy, the District Engineer of Nellore, that some of the gangs at work on the East Coast Canal were earning five and even six annas a head daily, that is, were doing five or six times as much work as is demanded from the relief labourers on the lower scale.

10. The work of such relief labourers could, therefore, scarcely be described as "severe physical exertion," even if it were fairly rendered; and in many, if not in most districts, it is still little more than nominal. As more efficient supervision is introduced and task-work really exacted, all those willing to do the very moderate task asked for will gradually be admitted to the higher standard and receive full wages, while it is submitted that the lower rate is sufficient to maintain those employed on nominal tasks of extreme lightness.

11. The objection to the new scale, which Dr. Cornish states in detail, is popularly formulated by the phrase "a full day's wage (that is, something more than the 1 lb. and the half anna) for a fair day's work." But the phrase postulates that there is a fair day's work, which is just what the vast majority of the relief labourers do not render. Therefore they are not entitled to, and do not physically need, the full day's wage. Where they render a really fair day's work there they do receive under the new rules more than the reduced scale.

12. The rates were avowedly recommended by me as experimental, and if they shall be found insufficient they may be increased; but it appears to me that they have not yet been found so, and that Dr. Cornish argues from a mistaken premise, which undermines his conclusions. If the poor people were found to be falling off in condition then I would at once recommend an alteration in the rate; but at present we have no such experience.

13. As a matter of fact, I must repeat that payments are not made in grain but in cash. A pound of grain has been estimated as costing one anna, and in no cases have the wages paid been less than an anna and a half, the anna being the supposed equivalent of a pound of grain, and the half anna being available to eke out the ration. An anna, however, represents in most parts of the worst districts more than 1 lb. of grain. At Adoni, for instance, where nearly 50 per cent. of the population were recently on work, one anna will purchase about $1\frac{1}{2}$ lbs. of cholum, which is the staple food of the people, leaving each labourer half an anna to buy pulse, condiments, &c.

14. It is impossible over such a large tract of country as is now affected with scarcity, where prices vary to some extent in almost every district, to lay down any rule which may not be open to local criticism and inapplicable to certain localities, but the scale laid down appears to me to be on the whole sufficient to yield the people that subsistence which alone Government can afford. We would gladly give more if it were in our power, but we must content ourselves with saving life, and cannot pretend to prevent all forms of distress.

15. There is one point which I must concede to Dr. Cornish's argument. In laying down the minimum scale it was, of course, intended that each labourer should be able to consume his own wages, and not have to share them with other persons of his family. These members of the family should either work for themselves, or if unable to do so, should be admitted to gratuitous relief. The case of young children who accompany their parents to the works, but are too young to work, that is, children from one year to seven years of age, has already attracted my attention, and I have recommended in a State minute that subsistence allowance be granted to them.

The reduced
scale of
wages.

16. Further, I would urge as the one motive common to the Government of India and Madras, and to all connected with the famine relief works, is the preservation of life and the mitigation of extreme suffering at the smallest cost to the State, consistent with the attainment of the object in view, that the inquiry as to whether the reduced scale of wages is sufficient to enable the people to tide over the next few months without serious danger to themselves should be decided not by pre-conceived physiological theories, but by patient practical examination of the people themselves, with a view to ascertain whether there is in fact any or any serious change for the worse in their physical condition under the new scale, as compared with their average condition in ordinary times. Having carefully inspected during my tour in this presidency thousands of relief labourers, I give it as my opinion that with very few exceptions, which are not as a rule traceable to insufficient relief wages, the general physical condition of the labourers is as good now as in ordinary years. If, as already stated, I find after a little more experience that the new scale of wages does seem insufficient to maintain the people in health, I will be the first to say so; but so far this has not seemed to me to be the case.

17. In conclusion, it is not possible, I submit, to determine *à priori* on scientific data what amount of food is necessary to sustain the particular classes who come to our relief. The real point to be considered is whether in ordinary times they get more than 1lb. a day for a male adult. This is an economic question, which can be determined by calculating the rate of wages in the rural districts—not the wages of trained professional labourers employed by public bodies, not the wages of stalwart men of the professional class of workmen, but the men of lesser physique and lighter frame, such as that of the village poor, but the wages received by the labouring poor in the villages of the interior, and then by taking the prices of common grains in ordinary years. Now, from inquiries made in various districts of the Madras Presidency, I apprehend that the labouring poor in rural localities can hardly get more than 1lb. a day for a male adult in ordinary times. If this be so, then the reduced scale must be sufficient for these same people on the Government relief works and need not be increased.

No. 170.

No. 145.

LVII. MINUTE by SIR RICHARD TEMPLE, on the subject of giving Subsistence Allowance to the younger Children of Relief Labourers.

Subsistence
allowance to
children.

Since the introduction of the new scale of wages, complaints appear to be made that relief labourers are sometimes accompanied to the works by children too young to work, *i.e.*, below seven years of age, who have to be supported out of the earnings of their parents; and suggestions have been offered that a subsistence allowance should be made on account of such children.

2. The new scale is avowedly a minimum allowance sufficient for one person, and it is evident that if a labourer has to divide his wages with other persons they will not suffice either for himself or for them, and suffering must result. All persons who are able to do light work can earn subsistence on the works for themselves, all who are unable to work are entitled to gratuitous relief, so that it is only the young children who have to be considered. These cannot be separated from their parents even if it were desirable to send them to the relief camps, which, in my opinion, it is not. They accompany their parents to the works and have to depend for food on some small share of the family earnings. When several members of a family (father, mothers and elder children) are employed, it is probable that one or two small children could be sustained out of the joint wages; but in cases where there may be only one or two bread-winners, and perhaps three or four children, a supplementary allowance will be necessary.

3. I believe that in some way or other the local officers have the power to afford additional aid to persons burdened with young children, and that such children do in many places get something extra, but I think it is now time that relief officers should be formally vested with a discretionary power for the relief of all children between one and seven years of age. Up to a year the child is at the breast; at seven he is admitted to the works.

4. A child of six requires much more food than a child just weaned, and it might be expedient to have different rates for children of different ages, say one rate for babies from one to three years, and another for children from three to seven, but I think that any fixed rate would be so open to abuse that it would probably be better to leave the amount of aid to be granted to the discretion of the local officers, subject to a maximum limit not exceeding half the rates paid to working children.

4. I would also suggest that this aid should not be indiscriminately given to all children who may be brought to the works, as this would probably lead to large numbers of children being sent to the works by parents not on relief at all, and thus an abuse might spring up. It would be preferable that inquiry should be made into individual cases, and the aid extended to such cases only as seem to need it.

Subsistence allowance to children.

No. 146.

No. 147.

EXTRACT from the PROCEEDINGS of the GOVERNMENT OF INDIA, in the Department of Revenue, Agriculture, and Commerce, dated Calcutta, the 9th March 1877.

RESOLUTION.

The province of Mysore is undergoing, throughout a large portion of its area, the unusual misfortune of a second season of drought. The harvest of the year 1874-75 was abundant, but the south-west monsoon of 1875 failed so extensively as to cause a loss of the greater part of the dry crops, and the succeeding north-east monsoon was likewise scanty and insufficient to fill the tanks which are relied upon for the irrigation of about one-sixth of the province. The prevalence of distress was brought fully to the notice of the Government of India in January 1876, and aid was afforded by means of relief works and considerable remissions of the land revenue. During the present year both the south-west and north-east monsoons have been even more scanty than before, and distress has consequently been converted into a famine of much severity.

The Province of Mysore.

2. In October last the Chief Commissioner reported very fully on the condition of affairs up to date, obtained a grant for relief works, and was requested to submit statistical information regarding each taluk similar to that called for at the same time with reference to the distressed portions of the Madras and Bombay Presidencies. Subsequently, a complete review and forecast, resembling that required for those presidencies, was considered to be necessary. The submission of the information thus expected has been unavoidably delayed by various circumstances, and it has not in all cases been found possible to ascertain details with the precision which might have been desired. The result has, moreover, been to a considerable extent anticipated by the graphic sketch of the condition of the province very recently presented by the minute of Sir Richard Temple dated the 14th ultimo, and its accompanying memoranda by Mr. Bernard. At the same time his Excellency the Governor-General in Council considers that there may be much advantage in making public a review of the tract suffering from scarcity which is based upon a comprehensive series of facts, collected by the several local officers who are in actual contact with the people and their difficulties, and expressed as far as possible in their own words.

3. The area of Mysore is 27,077 square miles, and its population 5,055,412, and the province is divided into eight districts, comprising 68 taluks. The Shimoga, Kadur, Hassan, and Mysore districts, which lie in order from north to south along the edge of the Western Ghâts, have suffered less than the others, and the two first named have even afforded by the jungles and grazing grounds in certain of their taluks most material aid to the remainder of the province. Chitaldroog and Bangalore come next in order of failure, while Tumkur, lying between them, and Kolar, the easternmost of all, have virtually lost nearly the whole of their crops. The affected area and population as estimated by the Chief Commissioner are given in the margin, and amount to nearly

Area in square miles.	Population.
16,812	2,579,827

two-thirds of the whole area and one half the whole population of the province. If, however, all taluks be considered as affected in which the crop saved amounts to less than one half, the numbers will be 14,479 and 2,849,329, while if taluks with half crop saved be added the results will be raised to 16,160 and 3,141,747 respectively.

4. The rainfall during the past season is shown in the margin. As only one-third of the taluks have had less than half the average, and no less than 31 have received above one-half, the general result is more favourable than that of the rainfall in the distressed districts in the Bombay Presidency during the same period. The fact, however, of the present season being the second one of drought renders the deficiency far more serious in its consequences than it otherwise would have been. The Chief Commissioner reports that "the tanks generally are all " dry, and the gravity of the crisis is undoubted," and it is to be feared that a considerable increase of suffering to both

Proportion.	Number of Taluks.
Full rainfall - -	8
Three-fourths - -	13
Two-thirds - - -	10
One-half - - - -	14
One-third - - - -	10
One-quarter - - -	9
One-seventh - - -	4
Total - - - - -	68

man and beast is inevitable.

5. The attempt to estimate with any approach to accuracy the failure of crops is in the present case surrounded with considerable difficulties. The province is subject to the influence of two monsoons, and there is also a considerable amount of land dependent on irrigation, which again proceeds from several sources, some of which are less affected by the rainfall than others. In the absence of correct statistics as to the proportions of the total area under each class of cultivation, it is obvious that a mere estimate of the

Districts.	Number of Taluks in which the Crop was							
	Full average.	Five-sixths.	Three-fourths.	One-half.	One-third.	One-fourth.	One-sixth.	One-eighth.
Bangalore	4	—	—	—	—	—	1	7
Kolar	—	—	—	—	6	2	2	—
Tumkur	—	—	—	—	—	1	1	6
Mysore	1	2	8	—	—	—	—	—
Hassan	—	4	2	3	—	—	—	—
Shimoga	6	—	—	—	2	—	—	—
Kadur	2	—	—	1	—	2	—	—
Chitaldroog	—	—	—	—	—	—	4	1
Total	9	6	10	4	8	5	8	8

suffered the heaviest loss; but is closely followed by Bangalore and Chitaldroog; Kolar and Kadur hold an intermediate position; Hassan and Mysore have failed but slightly, and Shimoga is almost untouched. Counting by taluks, the crop saved is above half in 25 taluks; the failure has been total in 10 and nearly so in eight more, while the intermediate number, losing from one-sixth to one-half both inclusive, is 25. These results are more extreme as regards both crop lost and crop saved, than those ascertained in the case of Bombay.

6. The estimates of probable remissions of land revenue which were formed in November amounted to no less than Rs. 25,64,956, the total demand for the year being Rs. 68,94,825, but further inquiry has reduced this figure to one half, or Rs. 12,76,672. It appears probable that still further reductions will be found practicable, especially in the Kolar district. The general principle laid down by the Chief Commissioner has been that eight annas in the rupee may be remitted on wet lands under tanks, if wholly unirrigated, and from four to six annas on dry land holdings, but that if any further concession be needed it must be in the form of postponement of recovery till next year.

7. The resources of Mysore in cattle and agricultural stock generally have not been reported, but they have already been most materially impaired, and it is to be feared that considerable further loss is unavoidable. The condition of the cattle may be said to be decidedly bad in 19 taluks, indifferent in 41, and good in eight only. The districts of Chitaldroog and Tumkur appear to be the worst, the reported losses being 79,700 and 97,600 head respectively. The remedial measures adopted have been the suspension of sales of grass on waste lands, the throwing open of the State forests, and above all, the removal of the cattle to the Ghât districts, particularly to the eight Mulnad taluks or hilly region in the Shimoga and Kadur districts. Prickly-pear has not found favour as fodder.

8. The scarcity of water is great through above two-thirds of the province; the condition in this respect of 17 taluks being bad and of 32 indifferent, and the suffering of the people and the cattle will be intensified in the event of no rain falling in the course of next month. The digging of temporary wells in the beds of nullas and tanks is the only measure which can be resorted to.

9. The course of prices during the three years months terminating at Christmas is chiefly remarkable as showing a general and gradual rise, rather than the sudden rise and subsequent recovery which was observable in the case of Bombay. Since that date there has been a decided amendment in the price of ragi, but that of rice has been more stationary. The condition and prospects of the grain trade have been so ably reviewed in the memoranda by Mr. Bernard, to which reference has already been made, that it is sufficient to say that in Mysore, as elsewhere, private trade has shown great activity, that the demand on the railway is, and will continue to be, in excess of its carrying power, and that there appear to be not inconsiderable stocks in the hands of the people which will not be drawn upon until June and July, when it is to be hoped that rain will have fallen and removed all anxiety regarding the coming season.

10. Mysore, like the west of India generally, does not possess a wealthy zemindari class, who can be relied on to pay their revenue regularly, notwithstanding occasional bad years, and to deal liberally with their tenantry. The population contains a rather larger per-centage than usual of high castes, but the majority are poor, excepting, perhaps, in the Mysore district. The Province of Mysore.

11. The number of persons reported to have emigrated is 334,248, or about 13 per cent. on the affected population, but the movement has for the most part been only to the Mulnad taluks of the Shimoga and Kadur districts, for the purpose of grazing cattle, or to the coffee plantations of Coorg and its vicinity, where labour is in request. It is doubtful whether the change of climate has usually been found advantageous.

12. Up to the period when the taluk reports now under consideration were sent in, the organisation of relief works had not attained any very large dimensions, and the Chief Commissioner was endeavouring, with equal caution and judgment to meet, without exceeding the exigencies of the situation. The projects which have been undertaken have, owing to the want of facilities for large undertakings, been of limited extent, and have in the great majority of instances consisted of tank repairs and clearances. As such projects are particularly appropriate to the circumstances of Mysore, and task-work is everywhere enforced, with the cordial co-operation of the Public Works Department, there is good reason to believe that the result will be a material improvement of the irrigational resources of the province. The totals of the general expenditure up to December 31st, by means of which much relief will be afforded, are given in the margin. The appropriations

	Rs.
District Fund Budget	1,85,323
Special relief works	1,19,269
Total	3,04,592
Imperial Public Works Irrigation Budget	3,56,234
Ditto roads and buildings ditto	8,36,533
Total	11,92,767
Civil Budget : petty repairs, &c.	76,831
Municipal Budget	1,19,713
Total	16,93,903

for relief works under civil officers were on February 17th Rs. 4,98,568, out of which Rs. 1,92,968 had been actually expended. The relief appears to have been sufficient without being excessive.

13. The organisation for charitable relief has been carefully developed throughout the various districts. Considerable sums have been privately raised for the support of the aged, helpless, and infirm, and the Chief Commissioner, in accordance with sanction accorded to him at his request on the 2nd November 1876, has made in all cases an equivalent grant on the part of Government. Recently arrangements have been commenced at the suggestion of Sir Richard Temple for a careful house to house visitation, with the view of preventing, as far as human agency can effect it, the mortality which might otherwise possibly occur among those who are from any cause prevented from seeking relief on the works.

14. The local officers estimate, as shown in the margin, the numbers likely to be in receipt of relief. As regards the first-mentioned date, it seems sufficient to say that, according to the latest information obtained by telegraph and relating to the latter part of February, the total on the works and receiving charitable relief was 94,596. The estimate, therefore, while beyond the mark was not altogether excessive, and it seems not improbable that the numbers on the 1st of May may come up to the local calculation. By the 1st of July, however, a considerable reduction in numbers may fairly be anticipated, especially if a favourable commencement of the rains has taken place.

15. In conclusion, his Excellency the Governor-General in Council has great pleasure in congratulating the Chief Commissioner and the officers of the Mysore Administration on the zeal, judgment, and humanity which have characterised their arrangements and exertions to meet the great calamity which has fallen upon the province, and the large measure of success which has hitherto attended them.

Ordered, that copies of this Resolution be communicated to the Secretary of State for India, the Chief Commissioner of Mysore, the Governments of Madras and Bombay, and Sir Richard Temple, and that it be published in the "Gazette of India."

Agriculture and Horticulture.—Famine.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Calcutta, 9th March 1877.

Insufficiency
of means of
transit for
grain.

The subject which has most particularly engaged our attention during the past week in connexion with the famine in the presidencies of Madras and Bombay, is the insufficiency of the means at present available for transporting grain from Madras to the interior, and more especially to the north-western districts of Cuddapah, Bellary, and Kurnool. The stock of grain at Madras awaiting removal by rail, including, we understand, some 26,000 tons of Government grain, is very large. Much of it is lying on the beach in bags exposed to the weather, and will be seriously damaged if rain should fall before it is removed. At present the Madras Railway is not able to carry more than 700 tons a day. It is of great importance that the carrying power of the railway should be increased with as little delay as possible, and with this view Sir Richard Temple has suggested, in a minute which we enclose, that the working of the Raichore section of the Madras Railway should, for a time, be made over to the Great Indian Peninsula Railway Company. On the 3rd instant we communicated to the Madras Government our concurrence in this proposal; but it now appears that there are difficulties in the way of its being carried out, owing, it is stated, to the rolling stock of the Great Indian Peninsula Railway not being more than sufficient to furnish haulage to Raichore. We hope to be able in the course of a few days to make arrangements for the supply of additional rolling-stock from the East Indian and other railways to the Great Indian Peninsula and Madras Railways. The strain on the railways for some months past has been undoubtedly very great, and the exertions of the railway officials have been most commendable; but still greater efforts will have to be made to avert disaster, and we trust that they will not be unsuccessful.

Grain purchases by
the Madras
Government.

2. Another matter which has caused us considerable anxiety, is the distrust which appears to be felt by members of the mercantile community, both at Madras and at Calcutta, in connexion with the purchases of grain made by the Madras Government some time ago. From letters which have appeared in the newspapers, and from information which has reached us from other quarters, there is evidently still an impression that the relations between the Madras Government and the firm which was employed by it to make its purchases, have not entirely ceased, and that there is danger of further similar purchases being made, and disarranging the calculations of the trade. Some colour was unfortunately given to the impression in question by a transaction which occurred at Bellary subsequent to the date on which the Madras Government brought to a close the arrangement with the firm alluded to for the purchase of grain. It appears that on the 12th of January, the arrangement with Messrs. Arbuthnot and Company having been terminated on the 5th, the Collector of Bellary purchased some grain for the relief works from a local firm without reference to the local agent of Messrs. Arbuthnot and Company, and was called upon by the Madras Government to explain why this particular transaction had been concluded without reference to the Government brokers, and it was not until the 29th January that the Government officers at Bellary became aware that Messrs. Arbuthnot and Company were no longer Government brokers. The fact that the firm in question had ceased to act for the Government in that capacity was not publicly notified by the Madras Government until the 8th February, a delay which was unfortunate, and which not improbably caused misapprehension in the minds of the mercantile community. From orders of the Madras Government which have recently been received, we learn that Messrs. Arbuthnot and Company were employed in issuing supplies of rice from the Government reserve, and in replacing in the reserve an equal quantity which apparently was supplied by them to the Government. In one of Sir Richard Temple's recent minutes, the same firm are alluded to under the designation of the Government grain agents. We are aware that the Madras Government have no intention of entering into further purchases of grain, similar to those made by them in November last; but it is so important that there should be no grounds whatever for misapprehension, either as to the action or intentions of the Government in this matter, that we have deemed it necessary to request that the Madras Government will lose no time in publicly notifying the quantity of grain now in its hands, both at Madras itself, and in the distressed districts, and its resolution to make no further purchases of grain outside of the distressed districts, unless it is satisfied that the trade is unable

To allay apprehensions
of mercantile
community,
Madras Government
will publicly

to supply the wants of those districts, in which case the grounds of that conclusion, and the exact intentions of the Government should be publicly made known. We have also instructed the Madras Government to notify that even in the distressed districts, the Government will abstain from making purchases except for the relief of localities which the trade is unable to reach; that all Government grain now in those districts will be removed to places at least 60 miles from the railway, and that no more Government grain will be sent to those districts from Madras so long as private trade is able to supply them.

notify intentions to make no further purchases.

3. In regard to the reserve of Government grain now at Madras, amounting, as we have said, to 26,000 tons, we have suggested, for the consideration of his Grace the Governor of Madras in Council, the expediency of disposing of this reserve by public sale to the trade. With reference to the large quantity of grain which appears to have accumulated at Madras, belonging to private traders, the retention of a Government reserve would seem to be unnecessary; and its existence is certainly calculated to keep alive the erroneous impressions which have taken possession of the public mind in regard to the probability of the Government again interfering with the grain market. We think that the reserve should be sold to the highest bidders in specified lots at intervals of, say, a fortnight, previous notification being given of the quantities to be sold, and of the dates on which the sales will take place. We feel sure that the adoption of these precautions will effectually dispel any apprehensions of interference on the part of the Government with private trade.

Government reserve at Madras should be sold to trade.

4. Among the enclosures of this Despatch will be found a minute by Sir Richard Temple on the expediency of drafting labourers from the relief works in the Nellore district, and also from the ceded districts and Kurnool, to the East Coast Navigation Canal, on which some 30,000 persons are now employed, but which will afford useful occupation to 60,000 more. This is one of the few relief works of magnitude at present in progress in the Madras Presidency. It is likely to prove a most useful work, passing, as it does, through the whole length of the Nellore district, connecting the delta of the Kistna River with Madras, and, as Sir Richard Temple observes, opening out "a large field for inland trade between the presidency town and some of the richest agricultural districts." It is a work which the Madras Government have long desired to carry out to completion, and it would have been completed under the Government of Lord Napier and Ettrick, who gave much attention to the project, had funds been available. It is very desirable that the present opportunity should not be lost. We have no doubt that in this, and in other cases, the difficulty of inducing people to leave their villages for a distant work on which a full day's work will be exacted can be overcome by patience and firmness on the part of the district officers and their subordinates.

East Coast Navigation Canal capable of employing 90,000 persons.

5. The following is Sir Richard Temple's telegraphic summary, received yesterday, of the present aspect of affairs in the Madras Presidency:—

Condition of Madras Presidency.

"Spring crop coming on in most of the distressed districts, tendency of prices slightly favourable, markets well supplied, but much anxiety about accumulation of grain at Madras. Great delay in doubling line to Arconum. Number on relief works further decreased by improved carefulness of local officers; task-work more strict from improved supervision. The reduction of wages is being introduced with much hesitation. Since letter reporting my inspection at various times of 97,000 relief labourers, I have inspected 30,000 more in districts of Cuddapah, Nellore, North Arcot, Coimbatore, and Salem. With some exceptions, physical condition of gangs inspected fairly good. In Nellore, relief labourers very reluctant to be transferred from petty village works under lax supervision to Coast Canal under professional control. Local rumours of mortality going on in Nellore district are without foundation. Applicants for charitable relief decreasing, because unwilling to submit to system of relief camps. General prospect tolerably favourable, with certain drawbacks only."

6. The number of persons employed in the relief works in the Madras Presidency, according to the latest returns, was 667,443, showing a decrease of 36,241 below the number of the previous week; 48,091 persons were gratuitously fed against 46,588, the corresponding number for the previous week.

Number in receipt of relief in Madras and Bombay.

7. In Bombay the number on the relief works during the week ending the 2nd instant was 263,053. As compared with the previous week, there was an increase of 11,630 persons; but the number on the works is enormously below the estimates referred to in the 10th paragraph of our Despatch of the 23rd ultimo, which gave the probable number for the 1st March at the respective figures of 750,000, 540,000, and 677,500. In Mysore the number on the works was 94,596.

The reduced
rate of
wages.

8. We have been furnished by the Madras Government with a copy of the letter addressed to them by their Sanitary Commissioner, which has been sent by them to your Lordship, regarding the alleged insufficiency of the reduced rate of wages lately prescribed for the relief works in the Madras Presidency. Sir Richard Temple has proceeded to Madras for the purpose of conferring with the Local Government on this subject. We shall probably be in a position to express our views upon it in our next Despatch.

No. 146.

9. We enclose a summary of the returns received from Mysore in reply to our call of the 30th October last, regarding the condition and prospects of the several talukas or subdivisions of districts in that province, together with our resolution reviewing them. As we have already noticed most of the salient facts connected with the famine in Mysore in our Despatch of the 23rd ultimo, we need not do more on the present occasion than draw your Lordship's attention to the papers now sent, which confirm the opinions we had previously formed from Sir Richard Temple's reports that the arrangements for dealing with the famine in that province have been characterised by zeal, judgment, and humanity.

10. When we deputed Sir Richard Temple in January last to visit the famine-stricken tracts and to confer with the Local Governments regarding the measures which were being carried out for the relief of distress, we had hoped that his mission would not occupy more than a few weeks; but it now seems probable that the arduous duty on which he is engaged will still occupy him for some time longer. It is impossible to over-estimate the value of the service which Sir Richard Temple is rendering to the State at the present juncture.

We have the honour to be, &c.

(Signed) LYTTON.

H. W. NORMAN.

A. HOBHOUSE.

E. C. BAYLEY.

ALEX. J. ARBUTHNOT.

A. CLARKE.

J. STRACHEY.

Nos. 175,
181.

No. 148.

No. 276, dated 9th March 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF MADRAS.

I am directed by the Governor-General in Council to communicate the following remarks with reference to the stock of grain purchased by the Government of Madras, a considerable portion of which is retained as a reserve.

2. The Madras Government are doubtless aware of the distrust which is felt by members of the mercantile community both at Madras and at Calcutta, and it is believed also at Rangoon, in connexion with the purchases of grain made by the Madras Government some time ago. This feeling has found expression from time to time in letters in the newspapers, and it is evident, from information which has reached the Government of India from other quarters, that there still exists an impression among persons interested in the grain trade that the relations between the Madras Government and the firm which it employed to make its purchases have not entirely ceased, and that there is a danger of other similar purchases being made, and disarranging the calculations of the trade. Some colour has unfortunately been given to the impression in question by the delay which occurred in notifying to the district officials at Bellary, and to the public generally, the termination of the appointment of Messrs. Arbuthnot & Co., as Government brokers for the purchase of grain; and from proceedings of the Madras Government which have recently been received, it would appear that Messrs. Arbuthnot & Co. were employed a few weeks ago in issuing supplies of rice from the Government reserve and in replacing in the reserve an equal quantity, which, apparently, was supplied by them to the Government. In one of Sir Richard Temple's recent minutes the same firm are alluded to under the designation of the Government grain agents.

3. The Governor-General in Council is aware that the Madras Government have no intention of entering into further purchases of grain similar to those made by them in November last, but it is so important that there should be no grounds whatever for misapprehension, either as to the action or intentions of the Government, that his Excellency

Grain pur-
chases by
Madras
Government.
Instructions
of Govern-
ment of India
in regard to.

in Council deems it necessary to request that the Madras Government will lose no time in publicly notifying the quantity of grain now in its hands, both at Madras itself and in the distressed districts, and its resolution to make no further purchases of grain outside of the distressed districts, unless it is satisfied that the trade is unable to supply the wants of those districts, in which case the grounds of that conclusion, and the exact intentions of the Government, will be publicly made known before action is taken.

Grain purchases by Madras Government.

4. This resolution should apply not only to additions to the reserve of grain now stored at Madras, but also to purchases made with the view of supplying the place of issues made from the reserve. It should also be notified that even in the distressed districts the Government will abstain from making purchases except for the relief of localities which the trade is unable to reach, that all Government grain now in those districts will be removed to places at least 60 miles from the railway, and that no more Government grain will be sent to them from Madras so long as private trade is able to supply them. I am to request that these instructions may be carried out with as little delay as possible.

5. In regard to the reserve of Government grain now at Madras, which, according to the latest information furnished to the Government of India, amounted to 26,000 tons, I am to suggest, for the consideration of his Grace in Council, the expediency of disposing of this reserve by public sale to the trade. With reference to the large quantity of grain which appears to have accumulated at Madras, belonging to private traders, the retention of a Government reserve would seem to be unnecessary, and its existence is certainly calculated to keep alive the erroneous impressions which have taken possession of the public mind in regard to the probability of the Government again interfering with the grain market. What the Government of India would suggest is that the reserve should be sold to the highest bidders in specified lots of, say, 5,000 tons each, at intervals of a fortnight, previous notification being given of the quantities to be sold, and of the dates on which the sales will take place.

No. 149.

No. 181.

LIX.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 12th March 1877.

When recording my minute of the 19th February, upon the adoption of the Negapatam route for the supply of grain to Bangalore, I was under the impression that the rates for the carriage of grain from Negapatam to Bangalore had already been lowered, and that the effect would by this time have been apparent in considerable despatches of grain to Bangalore by this route.

Negapatam route, supply of grain to Mysore by.

2. It was hoped that the augmented stock of engines would, by the 1st of March, have put the Madras Railway in a position to despatch grain from Madras up to the full extent of the carrying power of the single line between Madras and Arconum, and in addition to this to carry to Bangalore all the grain despatched from Beypore or Negapatam. And I look forward with much anxiety to the early attainment of this object.

3. With the large amount of grain now on the Madras beach, the immediate importance of the fullest possible despatches of grain from Madras is manifest. But I am advised that with the best arrangements the despatches of grain by the single line of rail from Madras to Arconum are not likely to exceed 45,000 tons a month; while the requirements in all the distressed districts from Madras and other sources of supply may rise even to 90,000 tons a month; and I have therefore invited attention to the great importance of the subsidiary sources of supply, namely, Raichore, Beypore, and Negapatam.

Grain supply to Mysore.

4. Captain Bisset has now visited Negapatam and Bangalore, and in the record of his observations he shows that, even at present, 200 tons a day can be landed at Negapatam and forwarded to Bangalore; and that, with improved landing facilities at Negapatam and increased transshipping accommodation at Trichinopoly, a daily supply of 300 tons may be obtained at Bangalore by this route. He has noted, also, that the demand for grain in Bangalore is now put at over 500 tons a day, or nearly 100 tons a day above previous estimates.

5. On account of this growing demand, and because the progress of the doubling of the line of railway from Madras to Arconum is so much slower than I was led to expect when recommending this measure, the arrangements for developing traffic *via* Negapatam become even more important than before; and I would invite attention to

rain sup-
ply to My-
sore.

the several suggestions offered in Captain Bisset's narrative, and would make the following recommendations:—

- I. That increased landing facilities be provided at Negapatam to meet a traffic, which, on the closing of the western ports by the monsoon, will become of vital importance to the country.
- II. That the necessary measures be taken to avoid delays in the supply of waggons at Negapatam, and in the transshipment of grain at Trichinopoly.
- III. That the system of waggon-interchange at Erode be adopted as suggested by Captain Bisset.
- IV. That every publicity be given to the orders for the reduction of grain rates from Negapatam to Bangalore, and that a similar reduction be made in the rates from Negapatam to Kolar road, a station from which large supplies are sent to the northern parts of Mysore and the southern taluks of Bellary.

No. 181.

No. 150.

No. 115, dated Madras, 12th March 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the SECRETARY TO THE GOVERNMENT OF INDIA.

Forwarding
No. 149.

By direction of Sir Richard Temple I have the honour to submit copy of a minute recorded by him in regard to the utilisation of the Negapatam port and route for the supply of grain to Bangalore and the Mysore country. The desirability of working this route first attracted the notice of his Grace the Governor, and it was in accordance with his Grace's suggestion that Captain Bisset was deputed to look into the facts on the spot. It is believed that steps have already been or are now being taken, under the orders of his Grace the Governor in Council, to meet some of the requirements noticed in the appended minute.

No. 181.

No. 151.

LXII.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 12th March 1877, on the employment of weavers in the Madras Presidency.

Light labour
required for
weavers and
spinners.

I desire to invite attention to the advisability of establishing some light labour test for the many thousands of weavers and spinners who are now coming upon the hands of Government in several of the famine-stricken districts of the Madras Presidency. It was proposed, as I understand some months ago by some of the Madras authorities, that Government should advance money to enable destitute weavers to buy material and carry on their trade. For several reasons it was then thought the plan might be deferred. But I submit that the time has come when this proposal might, with such modification as may be required by local circumstances, be resuscitated and carried into effect.

2. Near Bangalore, on a tank, I saw a special gang of poor weavers, who were allowed a higher rate for their piece-work than ordinary relief labourers, because their habits and the condition of their hands and fingers prevented their doing a full day's work. Some similar arrangements are, I believe, carried out in several places in the Madras Presidency also. And such arrangements may suffice for those weavers who make the coarser fabrics at Adoni, at Bellary, and other places.

3. But there are many weavers who work in silk or who do the finer kinds of cotton weaving; and such people might, if put upon tank or road work, become physically unfitted, for a time at any rate, to return to their usual employment after the end of the famine. Yet many of these poor people are undoubtedly in great straits; they can get no market for their products, and they can get no credit wherewith to buy materials. Yet they are many of them quite ready to work to the best of their power, in return for such relief as the State may give them. At Salem, for instance, I learnt that the silk weavers had reduced themselves to some extremity sooner than go on relief works, and at present they are subsisting on an organised private charity. Similar instances will ere long occur in Vellore, even if they are not already occurring.

4. In parts of Bengal (Burdwan and other places), during the famine of 1874, advances were made to weavers, and their manufactures were taken over by Government officers in return for the advances and for their support. At some of the relief houses also weavers were employed in making cotton and silk fabrics. The stores of such manu-

factures were kept till after the famine, and these were sold to the best advantage; and in the end the loss was not very large. I suggest that the Madras Government might see fit to authorise its officers to make similar arrangements at towns or in tracts where there is a large population of weavers who make the finer kinds of cotton or silk cloth. The Collectors, with the assistance and advice of Native officers and non-official Native gentlemen, would be able to carry out arrangements such as are now suggested with the least possible loss to the State, and with much advantage to a deserving and industrious class of the people.

Light labour
required for
weavers and
spinners.

No. 152.

No. 181.

LXIII.—MINUTE by SIR RICHARD TEMPLE, regarding relief camps and gratuitous relief in the Ceded Districts.

Madras, 12th March 1877.

In the distressed districts of the Madras Presidency below the ghâts there have been established relief camps for the reception and treatment of destitute persons who are unfit for labour on relief works. These camps consist of sheds erected in rows within large enclosures. They afford accommodation which is really good; indeed their accommodation ought not to be better than it is, otherwise a standard of comfort would be set up far superior to anything that could be obtained in the villages. They are organised and managed in a way that is most creditable to the officers concerned. Provided that the people were taken care of, their diseases treated and their necessities relieved, it was undoubtedly desirable at the outset that sojourn in these relief camps should not be made so agreeable and attractive as to lead to the pauperisation of the people. And so far the object has been attained.

Relief camps
well orga-
nised,

2. But as the season advances, it is evident that these camps are not so largely resorted to as might be expected under the circumstances of the people. There seems to be some prejudice against them among the poorest classes. And there is actually reason to fear that destitute persons may shrink from going to relief camps so long that meanwhile they may drift into dangerous distress. It is noticed that in some cases people will not resort to the camps; and paupers who are taken there run away for a few days only to return in a worse condition than ever. It may therefore become necessary for officers in charge of relief camps to make their camps somewhat more popular than they are now.

but not
popular.

3. After consulting various Native gentlemen of experience, I think that some concession might be made in relief camps to the caste feelings of the people. For the very poor classes, who in this presidency are often said to belong to no caste, the present system of public cooks in the camps might suffice. But for those who have grown up with caste feeling, some relaxation of the present arrangements might be permitted. Inmates might be allowed to cook their own food either for themselves or for self-arranged gangs, and they might be allowed to eat their meals apart and free from observation. In most of the camps there would be ample space for the enjoyment of such concessions. Then again, the sheds might be set apart for the principal castes; the casteless or very low caste people would in such case have sufficient shed accommodation for themselves. In most cases it would be possible to make these not very great (but still to Natives acceptable) concessions without any considerable increase of expenditure. If such concessions could be given, the relief camps would certainly become more efficient as safeguards against dangerous distress.

4. While the relief camp system has generally been adopted below the ghâts, different arrangements have been made for giving gratuitous relief in the ceded districts. In those districts outdoor relief, in the shape of cooked food, is distributed to ticket holders and to orphan children at relief houses. Ordinarily there is one such relief house at the head-quarters of each taluk, and five or six other subordinate relief houses in the interior of the taluk. Each such relief house is under the superintendence of a selected village official, or of a Revenue Inspector. At the outset there may have been, indeed in some cases there certainly were, abuses at relief houses of this kind; and gratuitous relief was occasionally given with undue liberality at towns where arrangements, begun from private charity, were afterwards taken over by Government officers. But now that adequate supervision has been or is being provided for every distressed taluk, these relief houses are inspected once or oftener in each week; abuses will be prevented, and the numbers on charitable relief are by no means excessive.

Gratuitous
reliefs.

Relief camps
and gratuitous relief.

5. The sad prevalence of cholera, and the practical* difficulties in the way of effective sanitation may prove obstacles to the extension of the relief camp system to the ceded districts. And under all the circumstances of the case, I would therefore now recommend that in those districts the present system of giving gratuitous relief be allowed to remain; and that the regular systematic inspection of all relief houses be enforced. One or two relief camps only in central places in the ceded districts might suffice.

* NOTE.—Persons of the sweeper caste are not readily procurable in the ceded districts.

No. 181.

No. 153.

LXIV.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 12th March 1877, on his visit to the Coimbatore and Salem Districts.

Salem and
Coimbatore.

In forwarding the accompanying memorandum of my visit to the districts of Salem and Coimbatore, a few brief remarks from me will suffice.

2. There can be no doubt of the heavy losses suffered in the eastern and north-eastern part of the Coimbatore district, and of the serious distress among the labouring classes.

3. The relief has been confined as yet to those classes, and has not yet been extended to the purely cultivating classes. Some portions of these classes are no doubt straitened, and had the relief system been at all lax, many of these would by this time have been in receipt of State charity. But the district authorities are very justly alive to the importance of keeping the peasant proprietary off State charity as long as possible.

4. My inspection of the various gangs of relief labourers, about 7,500 persons in all, was highly satisfactory, that is to say, the men and women were almost all of the sort which one would expect to find properly on relief; very few were persons who seemed able to sustain themselves, very few were in a physically reduced condition; task-work was rigorously exacted; there were many signs of system and organisation. About each person, singly, whose appearance seemed at all reduced, special inquiries were made. The local authorities were confident that the village headmen do understand and act upon the Government orders about searching for every individual case of distress throughout the district.

5. It is very satisfactory to find that the Collector does not anticipate any large increase of numbers on relief. This must, however, greatly depend on the weather.

6. On the whole, I consider the Coimbatore gangs to be the most satisfactory gangs which I have yet inspected anywhere. My impression regarding the carefulness, vigilance, and economy exercised by the Collector, Mr. Wedderburn, is very favourable. He is manifestly a thoughtful and experienced officer. The same watchfulness on his part which guards against waste or demoralisation will also ensure that no case of real distress will escape unrelieved. His Assistant and Sub-Collector, Mr. MacWalters, is an excellent manager, indeed, he is one of the very best relief officers whom I have met in this presidency.

7. My visit in the Salem district was cut short by the necessity of proceeding to Madras to confer with the Government on certain points. But I had the advantage of carefully examining the Collector, Mr. Longley, regarding the relief operations of the district in the presence of Mr. Puckle of the Board of Revenue. Here also I have formed a very favourable impression of the care and management of the Collector. He seems to me to be exacting task-work more strictly and completely than in any other district in this presidency. Considering the undoubted distress in the northern portion of his district, I think that his numbers on relief are moderate, though I fear they must increase. He is most thoughtful too, about searching for individual misery in every village. I have not met any officer yet in this presidency with sounder ideas on this important matter than Mr. Longley.

8. I have the pleasure to express my unqualified satisfaction with the result of the proceedings of the Collectors of Salem and Coimbatore, and my belief that in both these districts the Madras Government is thoroughly well served.

LXV.—MEMORANDUM ON SIR RICHARD TEMPLE'S visit to COIMBATORE and SALEM on 6th, 7th, and 8th March, by MR. C. E. BUCKLAND, Private Secretary.

Salem and
Coimbatore.

Madras, 12th March 1877.

In the district of Coimbatore, on the 6th and 7th March, Sir Richard Temple met Mr. MacWalters, the Sub-Collector, the officer in charge of the relief works in the interior, the tahsildars of Bhowany, Parundoray, Pelladum, and Coimbatore. He observed on both days the aspects of the country between Erode and Coimbatore, which comprises the tracts that have most suffered from drought. At Coimbatore itself he stayed with Mr. Wedderburn, the Collector, from whom he learnt that on the 6th March there were on relief works 22,351 labourers, the number the week previous having been 22,900. The number of persons fed gratuitously was stated to be 1,312, of whom 600 were at Oodamalapetta, some at Suttymangulum, and some at Bhowany. He thought now that the numbers would not rise above 30,000 at the worst time. The labourers are only paid for six days in the week, and task-work is enforced at the rate of 10 cubic yards for the rupee.

2. All the markets in the district are well supplied, as trade is extraordinarily active; Coimbatore itself is full of grain. The imports by sea all come from the west coast (Beypore). Cholum and ragi are imported largely from Bombay, and even Bengal rice comes round to Beypore. Last week 322 tons of rice were brought in, and 299 tons of dry grains. The price of grain has not varied greatly since last December. About the end of October and beginning of November prices ran up suddenly, in consequence of the demand for Mysore. The ordinary and present prices of food may be thus compared, in Madras measures for a rupee—

	Ordinary.	Present.
Rice -	12·50	7·80
Cholum	20·50	9·33
Ragi -	23·50	10·20
Cumboo	24·	10·60

The Collector regards the stationary prices of food grain since November as evidence of the existence of old stocks in the district. In his opinion, generally, one or one-and-a-half year's supply is kept in hand, though he has no means of gauging the amount accurately. And the fact of any quantity of rice being available at the rate of 7·80 seers the rupee, he thinks, keeps down the prices of the other grains; rice is only consumed by the upper classes as a rule.

3. The harvest just reaped has averaged about three or four annas throughout the district. The rice crop from the wet lands is nearly all cut, and the out-turn will be a half crop. For two or three months no field-work or agriculture is expected.

The Collector anticipates no necessity to make any remissions of land revenue in the Coimbatore taluk. Of the five lakhs assessment on "wet" land, where there has been a half crop, he expects to have to remit one lakh, and four lakhs out of the 19 lakhs assessment on the "dry" land.

5. The estimated expenditure sanctioned for the district is Rs. 4,68,346, of which, up to date, Rs. 1,40,860 have been spent.

6. During the week there were 1,158 attacks of cholera and 748 deaths.

7. On his way to Coimbatore, Sir Richard inspected collections of relief labourers, amounting to more than 5,500, at the stations of Perandoorg, Ootakally, Loonanoor, and Coimbatore, and on the return journey about 2,800 more at Avenashy road and Erode. Their condition struck him as middling, though sufficiently good with some few exceptions. Very few seemed to be able to sustain themselves without relief. Most of them belonged to the poorest and lowest classes. The velalars or cultivating classes were but slightly represented in these gangs, and these were either field labourers or cultivators of the poorest class. On the whole, the gangs comprised persons who need relief and hardly any others. There were no signs of waste or abuses, and many signs of care, system, and organisation. As relief labourers, these people appeared to be in a satisfactory condition, just in the sort of condition we should reasonably expect to find. At Coimbatore itself a number of weavers presented themselves, and complained that they had to work at the rate of 10 cubic yards the rupee, which was beyond their power. They had struck work in consequence. The Collector had under consideration the lowering of the task for these people.

Salem and
Coimbatore. 8. At Salem, on the 8th, Sir Richard Temple met Mr. R. Puckle, member of the Board of Revenue, Mr. Longley, the Collector, and the Native Deputy Collector. He inspected the relief camp near the head-quarters of the district, and inspected one gang of relief labourers, who were in very fair condition. He examined some of the wells in the highly cultivated plain near Salem, and found most of them dry, although water might be reached by deepening them; these seemed cases for advances being made by Government. He again questioned Mr. Longley carefully on all the points comprised in the memorandum of the 25th January. Mr. Longley had just returned from a careful inspection of the most distressed taluk in the district, namely, Dhurumpuri. Its condition, by all accounts, is very bad, as bad as that of any taluk in the presidency; but the relief operations have been carefully inspected by the Collector, and he is confident of their success and sufficiency. Undoubtedly, those portions of the district which, geographically, form a part of the Mysore plateau must suffer severely. For the other part of the district there is not much anxiety. The Collector's answers to all questions in detail were highly satisfactory. Sir Richard Temple was himself about to visit the Dhurumpuri taluk when he was summoned to Madras on important financial business. He is bound to say that from no Collector in the presidency has he received more sound and explicit replies to all questions regarding relief than from Mr. Longley. The Collector is most strict and zealous in enforcing a full performance of work by the gangs, and most anxious that all cases of misery should be dealt with under the village relief system. He is in some difficulty in regard to finding suitable work for the silk-weavers, who are as a class much distressed. He also regrets that the excellent relief camp is not more largely attended. On the day of Sir Richard Temple's visit, the number of relief labourers was taken to be somewhat below 25,000; the question of this number remaining stationary or rising depended on the falling of the spring showers. In this district, as in Coimbatore, the relief comprises only the poorest and lowest castes, and the poorest stratum of the agriculturists. The numbers on charitable relief were now under 10,000, but these will probably increase. The Collector quite understands the importance of instructing the village headmen to seek out and care for all cases of distress.

9. Sir Richard Temple had the advantage of verifying all these matters with Mr. Puckle, who most forcibly drew attention to the drought and uncertainty of season caused by the rapid denudation of the hill sides once so richly clothed with forests.

No. 181.

No. 155.

Relief works
and gratui-
tous relief. LXVI.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 12th March 1877, on relief works and gratuitous relief.

In continuation of my minute dated 24th February, and the statement thereto appended, I desire to submit a further statement of the numbers of relief labourers and recipients of gratuitous relief inspected by me between the 24th February and the 8th March, and some persons of the poorest classes, for the most part in the districts of North Arcot, Nellore, Cuddapah, and Coimbatore.

2. These inspections were conducted in the manner previously described. The analysis of the numbers shows that the physical condition of 14,330, 17,069, 2,428, and 1,300 may be considered as having been good, middling, indifferent, and bad respectively.

3. I wish to take this opportunity of correcting the description given of the physical condition of the gangs of 500 and 2,000 relief labourers and recipients of gratuitous relief inspected by me on the 26th and 27th of January at Madras and at Red Hills. Instead of the word "indifferent" I should have used the word "bad." It had been my wish to avoid minute distinctions and to group the gangs into broad classes, which would be readily numbered. But on reflection I think that the gangs mentioned were so inferior in physical condition to any other collection of such persons I have seen, that the word "bad" would have been more appropriately used to describe them.

STATEMENT showing the CLASSIFICATION of PERSONS on RELIEF WORK and RECIPIENTS of GRATUITOUS RELIEF inspected by SIR RICHARD TEMPLE between 24th February and 8th March 1877. Relief works and gratuitous relief.

Date of Inspection.	District.	Place.	Number.	Physical Condition.
24th February 1877	North Arcot	Tripati	1,000	Middling.
25th	"	Chandragiri	300	"
"	"	"	58	Indifferent.
26th	"	Trituni	600	Middling.
"	"	Puthoor	950	"
"	"	Kalustri	600	Bad.
27th	Nellore	Goodoor	200	Middling.
"	"	"	650	"
28th	"	East Coast Canal { Maipad Korutoor North of Maipad	1,000	Good.
"	"		5,000	"
"	"		2,000	Middling.
"	"	Anicut at Nellore	870	Indifferent.
1st March	"	Nellurpalem (Atmakoor)	4,560	Good.
"	"	Nandeveram	950	Middling.
"	"	Murripad	1,300	Indifferent.
2nd	Cuddapah	Sidhout and Budr	850	Good.
"	"	En route	700	Middling.
4th	North Arcot	Ranipett (relief camp)	300	Bad.
"	"	"	500	Middling.
"	"	Arni	500	"
"	"	"	1,000	Good.
5th	"	Near Kenimbady pass	500	"
"	"	Vellore	600	Middling.
"	"	" (relief camp)	200	Bad.
6th	Coimbatore	Perandooray	963	Middling.
"	"	Ootakally	1,456	"
"	"	Somanoor	2,000	"
"	"	Coimbatore	1,100	Good.
7th	"	"	200	Indift. (on strike).
"	"	Avenashay road	2,400	Middling.
"	"	Erode	1,300	"
8th	Salem	Salem	300	Good.
"	"	" (relief camp)	200	Bad.
Total			35,127	

Analysis.—Physical condition.

Good.	Middling.	Indifferent.	Bad.
14,330	17,069	2,428	1,300

No. 156.

No. 727R., dated 13th March 1877.

Nos. 157,
181.

From the SECRETARY TO THE GOVERNMENT OF INDIA, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department (Railway).

Referring to your No. 121 of 29th January and telegrams of 2nd and 3rd February 1877, I am directed to forward, for the information of the Government of Bombay, copy of a note,* dated 13th February 1877, on the accumulation of grain at stations on the East Indian Railway. Accumulation of grain on East Indian Railway.

2. It is evident that up to the date of this report the East Indian Railway was tendering to the Great Indian Peninsula Railway at Jubbulpore more waggons than the latter could take away. So long as this continues to be the case there can be no ground for intervention on behalf of the Great Indian Peninsula Company and its traffic in the manner desired by the traffic authorities of that line. The East Indian Railway meantime finds full use for its stock in transporting grain to the seaboard for export, and there is no apparent ground for the idea that this traffic has been favoured at the sacrifice of that to the Great Indian Peninsula Railway. To lock up an indefinite number of waggons at Jubbulpore waiting on the Great Indian Peninsula Railway would reduce, in this emergency, the useful effect of the East Indian Railway as a whole very materially.

3. The Great Indian Peninsula Railway Company returns the East Indian waggons within the limit provided in the working agreement.

* No. 83.

Grain accumulation on East Indian Railway.

4. For the accumulation at Jubbulpore and the long delay in clearing that station (paragraph 12) the Great Indian Peninsula is responsible.

5. The Government of Bombay will observe that it is reported that the strictest impartiality is being exercised in the despatch of consignments for the several stations of the East Indian Railway.

No. 181.

No. 157.

No. 728R., dated 13th March 1877.

From the GOVERNMENT OF INDIA, Public Works Department, to the CONSULTING ENGINEER TO THE GOVERNMENT OF INDIA for Guaranteed Railways.

I am directed to acknowledge receipt of your No. 440 of 23rd February 1877, submitting a note on the accumulation of grain at stations on the East Indian Railway.

2. It is evident that up to the date of this report the East Indian Railway was tendering to the Great Indian Peninsula Railway at Jubbulpore more waggons than the latter could take away. So long as this continues to be the case the Great Indian Peninsula Railway Company can have no just ground of complaint that its traffic is not fairly dealt with. The East Indian Railway, meantime, finds the fullest use for its stock in transporting grain to the seaboard for export, and there is no apparent ground for the idea that this traffic has been favoured at the sacrifice of that to the Great Indian Peninsula Railways. To lock up an indefinite number of waggons at Jubbulpore waiting on the Great Indian Peninsula Railway would reduce in this emergency the useful effect of the East Indian Railway, as a whole, very materially.

3. The Great Indian Peninsula Railway Company returns the East Indian waggons within the limit provided in the working agreements, and it has been confirmed from Madras that very few East Indian waggons have passed on to the Madras Railways. On the 21st January it had 21.

4. The accumulation of grain at Cawnpore, both for the Great Indian Peninsula Railway and for Howrah, was very large. At Atawa and Delhi also there were large accumulations. Goods registered at Jubbulpore so far back as the end of November were being sent off on February 4th; and at Jubbulpore, as also at the four adjacent stations of the Jubbulpore line of the East Indian Railway there were large accumulations. The Great Indian Peninsula Railway is apparently entirely responsible for the state of affairs at Jubbulpore.

5. It is reported that the heavy traffic on the East Indian Railway is being conducted with regularity, and that the strictest impartiality is being observed in the despatch of consignments from the several stations individually. This is satisfactory. It is presumed that the claims of all stations receive fair consideration in turn, even though in the case of some this may involve a very short lead.

6. The waggon mileage rate, (paragraph 15) on the East Indian and Great Indian Peninsula lines is irrespective of the capacity of the waggons. This point was reserved for consideration at the conference, but should probably receive earlier attention.

7. The accumulations on the loop line are considerable. The Nulhatti State Railway appears to have been subjected to summary, if not arbitrary, treatment in the matter of its through booked consignments.

No. 181.

No. 158.

LXVII.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 13th March 1877.

Grain trade from Bombay to Madras.

I desire to invite the attention of the Government of Bombay to the following remarks regarding the grain trade from (and through) the Bombay Presidency into the distressed districts of the Madras Presidency.

2. In the districts of Bellary, Kurnool, and Cuddapah, where the recent failure of harvests has been extreme, cholum (or jowari) is the staple food of the people. During the month of December cholum was, in those districts, selling, at times, as dear as $7\frac{1}{2}$ seers (15 lbs.) per rupee, or even at still dearer rates. At that time the Madras Railway was not able to dispose promptly of all the grain which the Great Indian Peninsula Railway delivered at Raichore. During January much improvement was effected in this respect; and throughout the month of February an average of 105 waggons (about 683 tons) of cholum was daily carried from Raichore into the Madras Presidency. One result of this large and steady importation of food was that the price of white (*i.e.*, northern) cholum became much cheaper in the ceded districts, and was ruling at $10\frac{1}{2}$ to 12 seers (21 to 24 lbs.) in the markets close to the railway.

3. During the last ten days, however, the smaller despatches of grain through Raichore have attracted attention. And one consequence of this decrease in the importations is that the price of cholum is already beginning to grow dearer. The decrease in the importation is not due to any shortcomings on the part of the Madras Railway, for that company is now carrying away promptly all the grain waggons which it receives from the Great Indian Peninsular Railway. It was at first conjectured that the fall in prices at Bellary and Adoni might have left no margin of profit for importers. But on the other hand the excellent spring harvests, now coming under the sickle in Northern India, will throw an immense quantity of food into the market. And I am assured that there are still large stocks of jowari, rice, and wheat in the districts known as the Nagpore section of the Great Indian Peninsula Railway, and that the dealers there would send off much more jowari (as much as ever), if only they could get waggons to carry it.

Grain trade from Bombay to Madras.

4. The season of greatest pressure in the famine-stricken districts of Madras is now approaching. The best estimate I have been able to make shows that from 75,000 to 90,000 tons of imported grain per month may be wanted by those districts during the worst time. And it will be quite impossible to maintain that rate of supply if the grain traffic from the west should remain at an average of 85* waggons (550 tons) a day. I consider

* This is the average number of grain waggons taken out of Raichore during the first ten days of March. that for the due safety of the country the grain imports from the Great Indian Peninsula Railway should not permanently fall below 130 waggons a day, while they ought at the worst time to reach 150 waggons a day.

5. I am aware that there may at the present time be much pressure on the Great Indian Peninsula Railway to carry cotton, seeds, and other commodities down to Bombay for export by sea. But I am confident that the Governments of India and Bombay will be pleased to approve of the view that the safety of the lives of the people, and the food supply which secure that safety, is of paramount importance. And I would urge that such steps as the Government of Bombay may deem right be taken to secure that sufficient waggons be allotted to the grain traffic as will secure the delivery of at least 120 waggons of grain (on the average) daily at Raichore, so long as dealers may be ready to send food grains into the distressed districts of Madras. If it should hereafter appear that dealers do not come forward to fill with grain all the waggons allotted to the Madras grain traffic, then the position can be reconsidered. But so long as grain dealers are ready to send their grain, a sufficient number of waggons ought in my judgment to be allotted to the grain traffic for the Madras districts. The contingency must be kept in view, that hereafter the average requirement of 130 waggons may have to be raised to an average of 150 waggons per diem.

No. 159.

No. 181.

LXXIII.—MEMORANDUM by CAPTAIN BISSET on the present state of the engine stock of the Madras Railway, dated Madras, 13th March 1877.

I have to-day learnt from the Consulting Engineer for Railways the following about the engine-drivers and the engines of the Madras Railway.

Engine stock of Madras Railway.

2. Ten engine-drivers have been engaged in England and are expected to reach Madras by the 29th March. 34 engines now running are expected to require repairs during the year. Of these, 11 must be taken off work in the course of the month of March, and the others at intervals which cannot be specified.

3. Of the engines now undergoing repairs, seven will be sent out in March, one in April, and two or three in the following months. Of those to be sent out in March one is a shunting engine.

4. Twelve of the borrowed engines have arrived, and are probably now at work, but the six engines got from the East Indian Railway Company are old and are expected to need frequent repairs.

5. Colonel Shaw-Stewart believes that an application has been made on behalf of the Great Indian Peninsula Railway Company for the use of the six State Railway engines which have yet to be received from Bombay.

6. On these points I would submit the following observations :—

There is already a clear gain of about seven engines, and it may reasonably be expected that when the remaining six engines arrive the clear gain will remain at from 10 to 12 engines.

Engine stock
of Madras
Railway.

7. As far as engine power is concerned, the estimate submitted with my note of the

STATEMENT showing in parallel columns the present working (week ending 3rd March), and that which is possible with the additional engines:—

Despatched from	Present number of Waggon a Day.	Probable number of Waggon a Day.
Madras { to North-west line	73	90
to South-west line	68	90
Raichore - - -	104	140
Bey pore - - -	45	} 60
Erode - - -	—	
Total - - -	290	380
Or total tons a day -	2,030	2,660

7th March can be worked up to almost at once, and certainly after the arrival of the engine-drivers on the 29th March.

8. With reference to the supposed proposal to divert the six engines from Madras for the use of the Great Indian Peninsula Railway, I have already represented that, while the engines of the Great Indian Peninsula Railway Company are worked very hard, the work on that railway is not, as on the Madras Railway, almost entirely grain traffic for the prevention of famine, and that even with the six engines there will be no more than sufficient power to carry the requisite amount of grain, even if the daily supply from all sources

remains uniformly up to the full amount of the estimate.

9. It is true that 10 powerful engines have been ordered by the Madras Railway Company from England, but these cannot be expected to be at work here till the end of June at the earliest.

And up to that time, to be really secure against the fluctuations in traffic which leave trains empty one week and crowd them in the next, it is necessary in my opinion to have six powerful goods engines in addition to those already arrived and the six daily expected.

And the explanation of the need for these is as follows:—

The heavy goods engines now on the line are nearly all fully occupied on the numerous severe gradients on the north-west and the south-west lines, and on the Bangalore branch. And there are but a few of them left to work the trains on the Madras to Arconum section. It is only in Madras that stocks of grain exist large enough and near enough to the affected districts to meet a sudden demand, and until the line from Madras to Arconum is doubled (which I cannot consider possible before the 15th of June), it is only by running heavier trains on this section that supplies to the famine country can be largely increased. There is not the same immediate necessity for additional waggon stock, but if the supplies of grain in through waggons at Raichore are not more fully maintained, it will not improbably be necessary hereafter to borrow waggons also.

No. 181.

No. 160.

Dated Madras, the 13th March 1877.

DEMI-OFFICIAL from the SECRETARY TO SIR RICHARD TEMPLE to the COLLECTOR OF CHINGLEPUT DISTRICT.

Land reve-
nue remis-
sion.

I have received an official letter from you yesterday (it seems to have been waiting some time at the Madras Club), saying that your views as to the possibility of collecting in future years part of the uncollected land revenue of this year had been misapprehended.

I append extract copy of the memorandum on Chingleput affairs which was published in the "Gazette of India."

That extract represents correctly, so far as the memory of Sir Richard Temple, Bisset, and myself serve us, the answer you gave to the question whether, if succeeding seasons were good, it might not be possible to collect a part at any rate of this year's arrears. Of course Sir Richard knew (and the fact has frequently been noticed in his minutes and memoranda) that it would be contrary to the customs of the Madras revenue system so to collect arrears. But it was not necessary to repeat that general fact in each successive district memorandum.

If you are certain that you never gave any such answer as we understood, and if you feel satisfied that no collection of any part of this year's arrears would under any circumstances (even if the system were changed, which the Government of India have decided to be unadvisable), then it would seem that we may have been under a misapprehension. And I will take Sir Richard's orders as to the way in which he wishes the misapprehension to be corrected, as soon as I receive your reply to this.

No. 161.

No. 12,699-G. 188, dated Bangalore, 13th March 1877.

No. 221.

From the OFFICIATING SECRETARY TO THE CHIEF COMMISSIONER OF MYSORE, to the
ADDITIONAL SECRETARY to the GOVERNMENT OF INDIA.

I am directed to submit, for the information of the Government of India, printed copies of the correspondence noted in the margin, which has recently passed between the Madras Government and the Chief Commissioner, on the subject of the migration of the people residing on either side of the frontier between this province and the Madras districts in search of relief.

From the Government of Madras, No. 508, dated 10th February 1877.
To the Government of Madras, No. 11,606-40, dated 15th February 1877.
From the Government of Madras, No. 767, dated 1st March 1877, with order thereon, No. 12,327-243, dated 6th March 1877.
To the Government of Madras, No. 12,335-44, dated 6th March 1877.
Chief Commissioner's Proceedings, No. 12,053-G239, of 27th February 1877.

Nos. (1, 6, 14, 35, 69, 91, 131, 142-3.)
(103, 127.)

No. 162.

No. 181.

No. 66, dated Hyderabad Residency, 13th March 1877.

From COLONEL SIR R. J. MEADE, K.C.S.I., the Resident at Hyderabad, to the ADDITIONAL
SECRETARY TO THE GOVERNMENT OF INDIA.

I have the honour to forward for submission to his Excellency the Viceroy and Governor-General in Council a summary of information furnished to me by the Nizam's Government on the state of affairs in those portions of the Hyderabad territory which are more or less affected by scarcity, together with a memorandum* embodying the same.

Hyderabad
State.

* No. 163.

2. It will be seen from these papers that the want in his Highness' dominions has never risen to a condition of actual famine, and that the area within which it prevails is much more circumscribed than was thought to be the case when the apprehensions of Government and the public were first excited on the subject.

3. So far as I can judge from the information now submitted, and from that I have from time to time verbally received from the Minister, there appears to be every reason to believe that the measures adopted by his Highness' Government for the relief of those needing assistance from the State are well adapted to the object in view, and will prove fairly efficacious.

4. His Excellency in Council will be gratified to learn from the enclosures that the conditions of the rabi harvest, now in course of being gathered, is generally fairly favourable, though there is more or less failure of the spring crops in all the affected taluks, and that no further extension of the area in which distress has hitherto prevailed is apprehended.

5. The maximum number of persons for whom it is estimated that relief will be required from the State during the remaining period of the scarcity is confidently limited to 43,000 per diem, and for that number the sanctioned relief works will probably provide ample employment.

6. The supplies of grain in the country are described as fully equal to all probable requirements for a lengthened period, and these will be largely supplemented by the out-turn of the present harvest.

7. The water supply is already very short in many parts of the country to which the scarcity of food-grains has not extended, or in which its effects are only felt from the great rise in prices of food that has taken place more or less throughout Hyderabad, and there is a good deal of anxiety as to how it may be further affected by the coming hot season.

8. Lastly, while there is, no doubt, a great want of fodder for the cattle in the taluks in which the monsoon failed, and it is deficient and high priced generally throughout the territory, the Government does not appear to entertain any serious apprehension as to the effect of this want or deficiency on the agricultural stock of the country.

9. It only remains for me to state for the information of his Excellency in Council, that the views and measures of his Highness' Government in connexion with the subject under report, so far as they have come to my knowledge, since the alarm of pending scarcity and famine was first raised, have been based on sound and liberal principles and have been directed with energy and judgment.

10. In all his proceedings on this occasion the able Minister, Sir Salar Jung, has acted in accordance with the principles enunciated by the British Government, as those by which its own officers should be guided in times of scarcity, and though, fortunately, the calamity has only extended to the districts under his administration in a comparatively

Hyderabad
State.

mild and mitigated form, his Excellency is, I venture to think, entitled to every credit for the measures that have been actually adopted, and for the manner in which his Highness' Government was prepared to grapple with the difficulties of the case if they had assumed the serious character that was at one time anticipated.

11. It is but right that I should add that the central committee and the State officials employed in the affected districts appear to have carried out the duties entrusted to them with much zeal and energy, and to have laboured earnestly to give full effect to the Minister's wishes and instructions. I have every reason to believe that Sir Salar Jung is well pleased with their conduct generally in this respect.

A.

STATEMENT showing EXTENT of FAMINE and NUMBER of FAMINE-STRICKEN PERSONS in the NIZAM'S TERRITORY.

Division.	District.	Area in square miles.	Population.	Estimate of famine-stricken persons requiring relief.	Remarks.
Southern division -	Gulburgah -	3,456	198,023	—	There is no famine in this district. State of crops generally fair.
Ditto -	Shorapur -	2,112	272,345	6,000	Distress in this district is confined to the western portion of it.
Ditto -	East Raichur -	2,752	295,848	10,000	Famine exists only in the Alpur taluk ; prices high in other taluks.
Ditto -	Western Lingsugur -	2,264	251,911	12,000	Crops scanty in taluks Sindnur and Kushtagi. Ryots and others suffering from famine.
Eastern division -	Khamam -	7,808	270,250	—	Neither famine nor distress at present exists.
Ditto -	Nulgunda -	7,424	226,619	5,000	Crops scanty in taluk Nalgunda, cultivators suffering. Grass, either green or dry, for cattle scarcely to be had.
Ditto -	Nagar Kurnool -	5,184	157,184	—	In none of the taluks in this district is there distress from famine, but high prices of grain prevail.
Western division -	Beder -	4,288	212,001	—	The rabi crops in good condition. The kharif crops above the average, and the cultivators considerably benefited.
Ditto -	Nuldroog -	3,420	267,180	10,000	In taluk Nelinga, the rabi season is good and the kharif also good, and according to expectations. In taluk Turjapur there is distress from scarcity of water, but no famine. In taluk Wasi, there is a scarcity of forage for cattle from want of rain. In taluk Nuldroog, season very favourable. In Dhara-seo, grain plentiful, but cattle suffering. In Parenda, owing to an almost total failure of rain, distress is felt from want of water, but there is sufficient supply of grain.
Northern division -	Nandair -	3,456	347,612	—	No famine. State of rabi and kharif crops fair.
Ditto -	Meduck -	4,032	156,080	—	No famine. Season good.
Ditto -	Indore -	3,328	243,298	—	State of agriculture very satisfactory, but apprehension entertained of high prices from exportations of grain and possible occurrence of famine. The state of this district, however, is better than all others.

STATEMENT showing the Extent of Famine and Number of Famine-stricken Persons in the Nizam's Territory—*cont.*Hyderabad
State.

Division.	District.	Area in square miles.	Population.	Estimate of famine stricken persons requiring relief.	Remarks.
Northern division -	Yelgundal -	6,400	460,610	—	No cause of complaint whatever. Grain plentiful. Crops flourishing.
Ditto -	Sirpur Tandore -	Not given.	147,973	—	
North-western division.	Aurangabad -	5,824	331,702	—	In some villages of taluks Baizapur and Kanhar crops failed from drought, but on the whole famine does not exist, though high prices of grain prevail.
Ditto -	Beer -	4,096	258,338	—	Famine does not exist in any of the taluks of this district; but in taluk Ashti distress is apprehended from failure of crops. There is, however, a sufficient quantity of grain in this taluk.
Ditto -	bb ani -	3,520	276,620	—	No cause of complaint whatever.
		69,364	4,373,594	43,000	

No. 163.

No. 181.

MEMORANDUM concerning the scarcity in his Highness the Nizam's Territory.

His Highness the Nizam's territory is divided into 17 districts, of which a list is given in the margin.* The pressure of want has been felt in seven taluks only of the districts, numbers 1 to 5. In four very severely, namely,—

- | | | |
|-------------------|-----------------------|--------------------|
| 1. Raichur. | } Affected districts. | 12. Meduck, |
| 2. Lingsugur. | | 13. Indore. |
| 3. Shorapur. | | 14. Elgundal. |
| 4. Nulgunda. | | 15. Sirpur Tandur. |
| 5. Bheer. | | 16. Aurungabad. |
| 6. Gulburgah. | | 17. Parbani. |
| 7. Khanram. | | |
| 8. Nagar Kurnool. | | |
| 9. Beder. | | |
| 10. Nuldrug. | | |
| 11. Nandair. | | |

NOTE.—The relief works in progress are shown on the map by red lines.

- (1.) Alumpur in Raichur, south.
 (2.) Sindnur in Lingsugur, south.
 (3.) Parainda in Nulgunda, east.
 (4.) Ashti in Bheer, north-west.
 And in three partially, namely,—
 (1.) Kustagi in Lingsugur, south.
 (2.) Indola, in Shorapur, south.
 (3.) Dewar Konda in Nulgunda, west.

In the first-named four taluks, the average crop was one of $4\frac{1}{2}$ annas, while in Alumpur it was of 2 annas only. In the last-named three taluks the average crop was as high at $10\frac{3}{4}$ annas. Over the rest of the country the harvests for the last year were fair, and though the partial failure of the monsoon may cause some distress during the ensuing hot season, there can be no doubt that, with the exception of the taluks above specified, no other part of his Highness' dominions has any cause to dread scarcity of a nature likely to cause serious distress.

The total area of the districts affected by the scarcity may be roughly calculated at 3,400 square miles, with a population of 360,000, or about 106 human beings to the square mile.

When the first reports of an approaching famine began to spread some six months ago, considerable alarm was manifested in the city and at the head-quarters of the Government, and relief measures were authorised, that have since, under the guidance of experience and a more intimate knowledge of the facts, been considerably modified. The whole of the relief proceedings are now entrusted to and directed by a central committee established at Hyderabad, under the presidency of the Revenue Minister, Nawab Mukarrum-ud-Dowlah, nephew to Sir Salar Jung. This committee is composed of men of all classes, creeds, and professions. It receives periodical reports of what is going on in the famine districts, and takes measures and issues orders accordingly. Its proceedings up to the present time appear to have been conducted with prudence and judgment, and to have inspired a general feeling of confidence.

Hyderabad
State.

The measures which the committee has principally addressed itself to have been the institution of relief works and the necessary arrangements for the supply in connexion therewith of a sufficient quantity of grain to feed the distressed and suffering poor seeking employment on these works.

Of actual starvation, no case has been reported to the capital, and it may be hoped that, however distressing the suffering inevitable from the high price of grain, death from sheer want of food will be warded off.

The relief works have been divided into two main heads, viz. :—

- (1.) The construction of roads and the repairing of tanks and canals; and
- (2.) The construction of new or the repair of old wells.

The total amount sanctioned for expenditure on relief works up to the 6th February 1877 was 4,22,021 H. S. rupees. The central relief committee is, however, authorised to recommend that an increase should be made to this grant if found necessary.

Of the above sum close on 1,20,000 H. S. rupees had been spent up to the 6th February, the total number of persons relieved being 941,377. The Minister's report only gives the daily average number relieved for the one week ending 6th February 1877, when it amounted to 26,558.

The wage allotted at the relief work is as follows per diem :—

	Rs.	A.	P.	Cts.	
A man 9 dubs=	-	0	1	8	Government coin.
A woman 6 dubs=	-	0	1	9	"
A child 4 dubs=	-	0	1	10	"

A male adult can purchase at the works about 1 seer of jawari with his day's wage as above.

The Government has not up to the present interfered in any way with the grain trade, and it is not probable that it will be called upon to do so. The trade in all species of grain is particularly lively. From the Southern Railway Station, between Gulburga and Raichur, in his Highness' dominion, no less than 40,000 tons of grain were exported within the five months up to February 1877, and those and the other stations along the line are still crammed with grain waiting to be removed. During the four months immediately preceding the commencement of the present year, the grain exports were 4,79,483 maunds against 1,57,676 maunds imports, while for the preceding year the figures show for the same period 2,13,601 maunds exports and 83,926 maunds imports, or less than half the quantities that have lately been transported under pressure of the existing partial scarcity. The grain, it may be mentioned, has up to the present time found its way into the affected districts by the ordinary modes of transit, carts, and brinjarah bullocks. The only complaints that have been made have had reference to the delays that have unavoidably taken place on the railway, and these complaints the railway authorities have ever done their best to rectify.

The system of transport by brinjarah bullocks works well, and will doubtless continue to do so should the very scanty fall of rain in many parts of the country not render the main lines of communication impracticable to beasts of burden from want of water.

The Government has not considered it necessary to issue any special instructions with the object of endeavouring to save the best of the stock of agricultural cattle in the affected localities. It is found that precautionary measures are generally taken by the owners themselves in behalf of the more valuable animals, and that Government interference is not needed. The value of the prickly-pear as an article of fodder has however been made known as widely as possible.

The state of the water supply in the various districts has not received the special attention of Government, beyond the issue of injunctions to the district officials to have wells dug and to improve the appliances at command for increasing the supply of water wherever feasible, and they have been authorised to spend money as required for this purpose at their discretion.

The measures taken for the preservation of health at the various relief works appear to be as satisfactory as circumstances will admit of; some few cases of cholera and small-pox have been reported, but there has been nothing like an epidemic, and the rules in force for the prevention of the spread of disease are satisfactory, and will doubtless prove effective if properly carried out.

Much care is now enjoined by the rules that have been laid down to obviate any individuals finding employment on the relief works who are not in actual want. The distribution of relief from private sources is as yet very limited, but may be expected to increase as the season advances.

His Highness' Government proposes, with the help of private aid, to establish generally throughout the affected districts poor-houses where relief may be distributed locally to such sufferers as are either unable to reach, or are not fit for employment on, the relief works, but from whom light labour will be taken, when found practicable. Hyderabad State.

On a rough estimate it is calculated that up to the 6th February 1877 the total number of the Nizam's subjects that had passed from Hyderabad territory into British limits aggregated about some 10,000 persons, and that this efflux was counterbalanced by an influx of no less than 29,000 emigrants from British territory, while it is also represented that over 11,000 of the latter were employed on the relief works in his Highness' territory during the week ending 6th ultimo. The extraordinary rise in the number of this class of persons from 1,663 in the week ending 29th January, to 11,149 during

*NOTE.—Inquiry has been made on this point.

that ending 6th February is worthy* of attention. It should, however, be added that it is acknowledged by his Highness' officials that these figures cannot be depended

on, and that nothing in the nature of a complaint regarding the advent of immigrants from the British districts in search of employment has been made by his Highness' Government.

In the parts of his Highness' territories most affected by the famine, the prospects of the crops now in the ground are generally good, and in some few places unusually so, and it may, indeed, be stated generally that the grave apprehensions of famine in his Highness' dominions which so generally existed some months ago have not been realised, either as to the intensity or extent of the threatened severity. It has been ascertained beyond a doubt that there is far more than sufficient grain in the country to meet any want that the Government is now likely to have to deal with. The scarcity is in fact well in hand, and the Government entertains, it is believed, a well-founded confidence that the measures that have been organised will suffice to stand the strain that may be put upon them, and that these measures are meeting the difficulty in as efficacious a manner as could have been looked for. The estimate of the maximum number that may have to be provided for on the relief works during the coming hot season does not exceed a daily average of 43,000 persons, and his Highness' Government appears to be satisfied that that estimate may be accepted as reliable.

The accompanying abstract statements of information supplied by his Highness' Government give full information on the several points briefly touched on above. They also include a list of the various prices of grain ruling in the capital and the districts.

No. 164.

No. 766R., dated 14th March 1877.

No. 181.

MEMORANDUM from the UNDER-SECRETARY TO THE GOVERNMENT OF INDIA, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA.

The undersigned is directed to forward copy of a note,* dated 13th February 1877, by Lieutenant D. A. Scott, R.E., Officiating Deputy Consulting Engineer to the Government of India for Guaranteed Railways at Calcutta, on the accumulation of grain at stations on the East Indian Railway, together with copies of letters addressed to the Government of Bombay and to the Consulting Engineer to the Government of India for Guaranteed Railways at Calcutta on the subject, Nos. 727 and 728R.† of the 13th March 1877. * No. 83.
Grain accumulation of East Indian Railway.
† Nos. 156-7.

No. 165.

No. 181.

LXVIII.—MINUTE by SIR RICHARD TEMPLE, reviewing DR. CORNISH'S objections to the REDUCED SCALE of WAGES.

Madras, 14th March 1877.

In my minute dated 6th March, I refrained from commenting on the scientific argument used by the Sanitary Commissioner of Madras, Dr. Cornish; but having since had the opportunity of making some inquiry on the subject, I have to make the following remarks. The reduced scale of wages.

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2. Dr. Cornish's scientific propositions are as follows :—

That (paragraph 4) the carboniferous and nitrogenous principles of food should be in the proportion of three of the former to one of the latter.

That (paragraph 6) according to all scientific investigators, 140 to 180 grains of nitrogen are required, in a state of rest, to oil the human machine, so to speak, while it is not working.

That in ordinary labour 300, and under great physical exertions 500 to 600 grains of nitrogen will be necessary.

That if such quantities are not provided under the corresponding circumstances, "the body must prey on its own tissues so long as any remain to be preyed upon."

That (paragraph 13) "in regard to this question of a pound of grain being "enough or not enough, we should never know the result until the mischiefs "resulting from a deficient supply of nitrogenous food have gone so far that a "retracing of our steps would be powerless to save life."

3. This last statement is made with much confidence. From its nature it can hardly be disproved, but it seems to me that it may be regarded as a mere expression of opinion, if we can show that Dr. Cornish's other propositions given with equal precision and arguable, perhaps, in theory, are not applicable, or but very partially applicable, to the circumstances of Native life and Native diets.

4. In the Madras Manual of Hygiene, compiled under the orders of Government, and published in 1875, the main parts of Dr. Cornish's theories are adopted. It is stated, page 96, "The unavoidable internal work of the body of an adult human being, that is, "the movements necessary for respiration, circulation, and digestion, require a minimum "of 138 grains of nitrogen in 24 hours for their maintenance. In a state of idleness of "mind and body, the least amount compatible with health may be stated as 200 grains "for a man and 180 for a woman. In the ordinary circumstances of the soldier, the "artizan, the field-labourer, and the prisoner in most of our jails, 300 grains will be a "fair minimum. Very great physical exertion will demand 500 grains or even more."

5. Sir Robert Christison's theory, founded, as I understand, on careful experiment on Scotch labourers, and possibly applicable to them, is therefore adopted in its entirety by the Sanitary Commissioner, and by the author of the Madras Manual of Hygiene, as applicable to the natives of Southern India. It is on this assumption that Dr. Cornish's whole argument is based, and in the Manual it is expressly applied to the "prisoners in "most of our jails." Its application, in fact and in practice, has now to be considered.

6. The opinion that 1 lb. a day of grain might suffice for a relief labourer, together with some allowance for condiments and the like, or some nutritious substance, was not, indeed, based on scientific theory. It was founded rather on probabilities practically deduced from the condition of the poorer classes in ordinary times, and on the results of general experience. It was not put forth with absolute confidence. It was to be subjected to trial, not by theoretical data, but by the observation of its actual results.

7. Dr. Cornish protests against this opinion as "in direct contradiction to the accumulated testimony of scientific observers in every country in which this question of the "quantity and variety of food essential to keep a labouring man in health and strength "has been the subject of investigation."

8. Certainly this opinion was not based on so called scientific evidence, apparently taken as proved on the strength of experiments made on men of different race and habits, living under different circumstances, in an altogether different climate, and probably exceeding by a third in average weight the people to whom the results of the experiments are with such confidence applied. For administrative and financial purposes I should not base my recommendations on such data, inasmuch as the question must be one extremely difficult of scientific ascertainment, and in respect to which even the best conducted experiments, if made in different parts of the world, might lead to varying results. And in order to show how little these data can be accepted for these purposes, it is sufficient for me to refer to the Madras Manual of Hygiene itself.

9. In an appendix from pages 361 to 380 are given the whole range of Madras dietaries for soldiers, sepoy, and prisoners, military and civil, under various circumstances, in sickness and in health. The quantity of each food is given, together with an elaborate analysis of its composition, and the proportion of each of the physiologically essential elements, one column showing the amount of nitrogen, another the quantity of carbon in each diet.

10. Had those quantities corresponded to, or even approximated to, the amounts so authoritatively declared to be necessary, it would still have been open to me to say that

the dietaries have been decided by European committees by the advice and with the assistance of Sanitary Commissioners; that they are intended for persons from whom full work is demanded, and who receive in return not a subsistence allowance, but a full ration; that rations are avowedly fixed on a liberal scale so as to suffice for persons who consume more than the average; that it is matter of common reproach, both in this country and in England, that prisoners are better fed than paupers, whose poverty is their only crime; and that it is absurd to suppose that the poorer classes in this or any country get as much to eat as prisoners or soldiers, or that they cannot live on much less.

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11. All these arguments might, however, be set aside, for an examination of the dietaries in the book itself prove conclusively not only that the theories advanced by the Sanitary Commissioner have very little application in practice, but that the reduced scale of wages suffices to supply the relief labourer with more than sufficient nitrogen and carbon to keep him in health. They prove, first, that, as regards Natives of this country, the carboniferous bear to the nitrogenous elements of food the ratio of about 7 to 1 instead of 3 to 1 as in the English dietaries [in the ration of the sepoy on foreign service the proportion is 10 to 1, 26·70 oz. to 2·68 (page 3,791)]; and as the absolute weight of food taken daily by Natives and Europeans is probably about the same, it follows that the amount of nitrogen required by Natives must be much less than that required by Europeans; and when the diets are examined, this is found to be the case. The Madras sepoy, when ordered on foreign service, during which he may be, and often is called upon to undergo severe physical exertion, receives a full ration from Government. According to the theory he requires a minimum of 300 grains of nitrogen when performing ordinary duties, but when marching or undergoing severe labour he needs 500 or 600 grains. As a matter of fact he gets (page 379) only 178 grains, little more than half the minimum required, and only about a third of what is declared necessary to support him when called upon to do strenuous work. According to this theory, then, the Madras sepoy would be undergoing starvation at the hands of the Government which employs him. But in fact, he is not so reduced physically, nor does he fail that Government when it calls on him for exertions compared to which the labour demanded from most of our relief labourers is as nothing. This case, I submit, makes very strongly against Dr. Cornish's theory, but a still stronger one yet remains behind.

12. The British soldier, to whom if to any one the theory should apply, requiring, like the sepoy, 300 to 600 grains under like circumstances, receives 242 grains of nitrogen in his full ration, that is, 25 per cent. less than the minimum required to keep him in health when in garrison, and less than half what he ought to have when marching or on service. But this is not all, for when his ordinary work is not demanded of him, as when he is in prison or at sea, he receives only a reduced ration, and singularly enough, though the details of the two rations are altogether different (Madras Manual, pages 364 and 369). The amount of nitrogen contained in each is identical, namely, 155 grains, about half of the amount declared to be the minimum necessary to maintain him in health, a quarter of what he should have when on service, and considerably less than the least amount compatible with health in a state of rest of mind and body, as laid down in the quotation from the Madras Manual already cited. According to this theory, we should have to imagine that the British soldier is half starved on boardship, or that he is landed in India in a reduced condition physically, or in a state of health which could hardly be restored by subsequent nutrition. The actual fact is, of course, the reverse.

13. This instance appears to be a crucial one. This British soldier is not reduced by a diet containing 155 grains of nitrogen. His average weight is probably a third greater than that of the average relief labourer, and it would seem to follow that the relief labourer could be maintained in health by the same proportion, *i.e.*, two-thirds of the absolute quantity of nitrogen required by the European soldier. But 1 lb. of the cholum contains, according to Dr. Cornish (paragraph 7), 100 grains of nitrogen, therefore, a pound of cholum should suffice to keep him in moderate condition when something in the way of condiments and nutritious substance is added.

14. I need not press the argument so far, however. The labourer's allowance is not a pound of cholum, but a pound of grain *plus* half an anna, or in practice $1\frac{1}{2}$ annas, in cash. Taking grain at an anna a pound (it is 25 per cent. cheaper in many places), he can buy with this amount as much nitrogenous food as is allowed to the British soldier on board ship. According to the facts furnished by the Madras Manual (but not its theories), the above allowance would appear sufficient to keep him from starvation.

15. With regard to the carbonaceous element of food, the result is the same. The Manual lays down (page 98) that 3,500 grains of carbon are required in a state of rest,

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and that 5,000 "may be safely taken as a maximum under any circumstances of exertion." The dietaries show that the European soldier gets 4,307 grains in his full ration, and 2,986 when on board ship, while sepoys get 6,659 when on foreign service, and Native prisoners 5,616, or rather less, according to the particular constituents of their diet. A pound of cholum contains 2,764 grains (page 376), so that on a pound a day the relief labourer gets much more in proportion to his weight than the soldier on board ship, and can purchase with the wages given him almost as much as the soldier gets in his full ration.

16. These statements and estimates of the chemical constituents of the military rations, both for European and Native troops, are not (be it remembered) made by me, but they have been furnished by the Madras Manual of Hygiene; they are put in the simplest possible form, and can be verified by any one though he may not be versed in the chemistry of food or the data on which the calculation are made. And I submit that they prove conclusively that the theories enunciated by English authorities, however eminent, and apparently adopted without additional experiments by the Manual, do not apply to Natives of this country; only, in fact, apply in the most general way to Englishmen themselves, and cannot be at all accepted as valid reasons why Government should desist from a trial suggested by experience, which, if successful, will conduce to saving the people on the one hand, and to preventing unnecessary expenditure on the other.

17. I should not have discussed this matter at all had not the scientific theory been propounded with so much precision, and with so strongly-worded remonstrance against the disregard of it. But we see that the theory is not applicable, and cannot be implicitly accepted. If, as stated in my minute of the 6th current, it is found on a deliberate and dispassionate trial that the new scale is insufficient, and that the labourers do not maintain their health, it can, of course, be revised. I have sufficiently shown that this is a matter which may be left to careful observation of the condition of the people, and not deduced, *à priori*, from theoretical considerations which break down when subjected to plain criticism, and are shown to be inapplicable to the case in hand.

18. Though constrained to demur to the manner in which the Sanitary Commissioner applies certain theories to the proposed practice in our relief operations, I am fully conscious of the benevolent and charitable motives by which Dr. Cornish is actuated, and of his meritorious labours for the welfare of the people in this presidency.

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No. 166.

MEMORANDUM by MR. BERNARD and CAPTAIN BISSET on the points raised by HIS GRACE the GOVERNOR OF MADRAS respecting Mysore grain supply.

Madras, 14th March 1877.

Mysore
grain supply.

According to the best computation that we can make, the Mysore country ought to get and actually requires* 500 tons of grain a day at stations on the Bangalore branch. This quantity will suffice for the wants of the Mysore districts of Bangalore, Kolar, Tumkur, and part of Chitaldroog, containing about 2½ millions of people. Part of the Chitaldroog district with a population of perhaps 350,000 persons will and now does draw its supplies of foreign grain from Bellary. But then, as a compensation, the taluks of Pennekonda, Hindupore, and part of Madaksirra in the Bellary district now get and will continue to get their supplies from Bangalore. The population of these two taluks and part of the third may be about 200,000 persons. The districts of Shimoga, Hassan, and Kadur, with a population of 1½ millions, are said to be living on their own produce, eked out by food imported from the western coast. Shimoga and Hassan, with a population of 1,170,000 between them, had an 8-anna and 9-anna harvest. Kadur had only a 4-anna harvest. When the monsoon closes the ports on the western coast, then these three last districts cannot draw supplies from the seaboard, and we do not know how far the stocks of Canara and Malabar can afford to contribute to the support of Western Mysore. Looking to the Board's returns of grain imports into the western ports and to the large railway despatches from Beypore, we cannot think that any very large quantity of grain from beyond the sea has hitherto regularly found its way into Western Mysore. Much of the import shown in the margin goes to Coorg and the Mulnaad coffee districts. We should not put

Rice importations into West Coast ports other than Beypore and Calicut—	
September 1876	- 2,000 tons.
October "	- 3,800 "
November "	- 4,100 "
December "	- 2,800 "
January 1877	- 7,000 "

the demand of these districts for foreign grain at above 1,500 to 2,000 tons a month, or Mysore say about 50 tons a day. But of course this estimate is little else than a guess, and may grain supply. be beyond the truth.

2. According to the estimate in the foregoing paragraph, the demand of Mysore may be summarised thus :—

Bangalore branch demand -	-	-	500 tons of grain daily.
Western Mysore demand which, after the 15th May, may have to be drawn through Bangalore.	50	" "	
Chittaldroog demand on Bellary for 350,000 people, less the Bellary supply for 200,000 people now drawn from Bangalore.	20	" "	
Total	-	-	<u>570</u>

3. His Grace the Governor asks for an opinion whether there is in Mysore any accumulation of imported grain sufficient to enable the province to tide over a short interruption of imports such as any accident might cause. To this question we can give no precise reply. But we note the following points as bearing upon this subject: the Bangalore traders told Sir Richard Temple early in February that their demands would continue constant until next crop came in; they told Captain Bisset that they now had to refuse grain orders from the interior, because they could not get enough grain from Madras; and they said they could take 100 tons a day more than they now receive, if only it could be carried to them from Madras by railway. On the other hand there are certainly considerable stocks in the country, which will begin to come out into the market as soon as the tanks fill and next season's crop is tolerably secure. The net result is that there is not, so far as we believe, any considerable accumulation of imported grain in the Mysore markets. And a daily supply nearly equal to the total given at paragraph 2 ought to be regularly carried into Mysore.

4. The question then arises whether this full supply of * 570 tons can or cannot be maintained. And the answer to this question involves the general question of the demand of, and supply to, all the Madras famine districts. We think that for the purposes of the present question we may reckon that the districts of Nellore, Chingleput,† South Arcot, Trichinopoly, Madura, part of Kurnool, and Tinnevely, will get what foreign grain they may require without throwing any

* 500 tons from East coast.
50 " West "
20 " Bellary.

† NOTE.—Parts of Chingleput may perhaps draw their supplies from the railway. But then parts of North Arcot may be supplied from the sea.

work on the Madras Railway. There remain, then—

Class A.

	Population.
Bellary - - - - -	} 3,800,000
Cuddapah - - - - -	
Kurnool ($\frac{4}{5}$ th of) - - - - -	

Class B.

Coimbatore - - - - -	} 5,500,000
Salem - - - - -	
North Arcot - - - - -	

According to the estimate made in the memorandum of the 27th January, the districts in Class A. will require :—

	Tons.
Imported food for two-thirds of their population, or per diem	1,040
While the districts in Class B. will require imported food for one-half their population, or per diem.	1,100
Add the Mysore demand as previously worked out -	570
	<u>2,710</u>

5. This total quantity is, so far as we are able to judge, the largest quantity which will be required, and we believe that this quantity can and will (if the grain comes

Grain
supply.

forward) be carried by the railway. The subjoined table of Captain Bisset's explains this:—

	Number of Waggons despatched daily.	
	Present Working.	Probable or Promised Working.
From Madras to North-western line	- 73	90
„ „ to South-western line	- 68	90
„ Raichore, south-east ward -	- 104	140
„ Beypore -	- 45	—
„ Negapatam and Erode -	- —	60
Total	- 290 waggons.	380 waggons.
Or in tons a day	- 2,030 tons.	2,660 tons.

6. Thus the Madras Railway can, if it works well, send into the distressed districts daily the full amount of grain which they could according to our estimate require. But it is to be noted that the famine districts have as yet never received, and presumably have not absolutely required the full amount of grain shown in the estimate. The spring crops in irrigated lands of Kurnool, Cuddapah, and North Arcot do, no doubt, to some extent supply the wants of their immediate neighbourhoods. And perhaps the full demand shown in our estimate may be required only for a very short time, if at all.

7. The statement in paragraph 5 (above) provides for working to their full power all the 18 borrowed engines, but does not reckon on the 10 new engines ordered by the Madras Railway coming into work before the 15th June. Also, it does not reckon on the Madras to Arconum length being doubled before the 15th June. The doubling of the line to Avady, 13 miles from Madras, may however be done by the 1st April, and will considerably facilitate the grain traffic on the Arconum section. Still if our estimate of the possible demand be accepted, then it seems necessary to have some reserve of engine power available. For this purpose it will be necessary either to borrow, or to have power to borrow, six heavy engines able to draw trains of 30 waggons each on the Arconum section.

P.S.—We have not discussed in detail the way in which the Negapatam and Erode route ought to take the place of the Beypore route when the monsoon breaks, because Captain Bisset's Negapatam notes and Sir Richard Temple's minute thereon go fully into that question.

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No. 167.

LXXII.—MINUTE by SIR RICHARD TEMPLE, dated Madras, 14th March 1877.

Necessity for
reserve of
carrying
power.
Madras Rail-
way engine
stock weak.

The amount of sea-borne grain remaining in Madras is so great, and the existence of large surplus stocks of food-grains in the Berars and in Hindustan is so well known, that no anxiety exists about the sufficiency of the distant markets to provide the necessary supplies.

2. But while well-founded hopes exist that with an absolutely regular traffic the necessary amount of food may be carried to the people, it cannot be forgotten that both from variations in prices and from irregularities or mishaps on the railways themselves, this perfect regularity cannot be attained.

3. To provide against these irregularities a reserve of power is absolutely necessary. And on the Madras Railway the condition of much of the engine stock is doubtful, and the number of engines, and particularly of goods engines is small, so that even after the receipt of the 18 borrowed engines there is no such reserve of power.

4. The accompanying memorandum * by Captain Bisset, which has been prepared under my instructions, embodies the result of his inquiries into the present state of the engine stock of the Madras Railway, and into the amount of grain which these engines, with the 18 already borrowed, can carry from all sources into the distressed districts.

5. A consideration of the facts and opinions recorded in this memorandum leads me to recommend earnestly that arrangements be made by the Government of India for borrowing and placing at the disposal of the Madras Railway Company six of the most powerful goods engines which can be found in India.

* No. 159.

6. Since recording the above remarks I have had the advantage of discussing the question of railway carriage with his Grace the Governor of Madras, and of ascertaining that the foregoing recommendation meets the views which his Grace had already taken of the further requirements of the Madras Railways.

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No. 181.

LXXIV.—MINUTE by SIR RICHARD TEMPLE, on the Red Hills and Palaveram Relief Camps.

Madras, 14th March 1877.

Red Hills
and Palave-
ram Relief
Camps.

Having inspected the relief camps at the Red Hills at Yerroocancherry and at Palaveram, I desire to record the following observations :—

2. The improvement in the appearance and physical condition of the inmates of the Red Hills camp, since my first visit at the end of January, is very marked. On the day of my visit about 2,000 of these poor people were so far recovered as to be able to work, and were about to be drafted on the relief works in the neighbourhood.

3. Among the new arrivals I observed some from the north-east portions of the North Arcot district, especially the zemindaris of Kalustri and the eastern part of Karváttnagar, and from the Nellore district, especially the zemindari of Venkutgiri. This circumstance affords additional proof of the necessity of the increased precaution for ensuring house-to-house visitation, village to village, which necessity was mentioned in my minutes of the 5th March and the 6th March regarding those districts, and which is, I believe, now practically recognised and acted upon by the district authorities themselves.

4. Though the same facilities for such visitation exist in the zemindaris as in the regular ryotwari tracts, yet my visit to those zemindaris compels me to report to the Madras Government that the zemindars are either not able or not prepared to do all that is needful, unless further pressure be put upon them. I have suggested that in such zemindaris the Collector should depute some trustworthy and experienced official, European or Native, to see that this visitation is so conducted that all persons in distress are really brought forward for relief. If this were done, then these wandering poor would not be straying away from their homes, and finding their weary way to the relief camps near Madras itself. So long as new arrivals at the Red Hills camp are people of the Chingleput district in which the camp is situate, there is no occasion for remark; but when they hail from North Arcot or from Nellore, then occasion arises for inquiring as to how and why they left their homes, and why they were not picked up near their own villages, or cared for in their own districts. The occurrence of such cases is calculated to throw doubt on the arrangements for charitable relief in those districts. I trust, however, that it will be found that recently these arrangements have been so far perfected in both these districts that no more people will come from there, at least no appreciable numbers, to the relief camps near Madras.

5. At the Yerroocancherry camp I observed a system of housing and lodging different from that in the other relief camps. In those camps the people are accommodated in long barrack-like rows of huts. In this camp, however, there are separate huts for each group of two or three families. And there was an air of cheerfulness about the inmates, several hundreds of whom were paraded for my inspection, very different from the air which is generally to be perceived in those camps. Evidently this sort of camp is much more popular with the poorest classes than the other camps. And the cause appears to lie in the plan of having separate family huts. Inasmuch as the rendering the relief camps less distasteful than they now are to the poorest classes and to the destitute wanderers,—who still have some pride of caste remaining—is one of the problems in the organisation of charitable relief, I would commend the practice of the Yerroocancherry camp to the consideration of the Government of Madras.

6. The Palaveram camp appeared to me to be in very fair order, and the separation of those who have caste from those who are pariahs and below caste, was more complete than in some of the camps which have been visited, though even here the arrangements might in this respect be improved.

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No. 181.

No. 142, dated Sholápur, 15th March 1877.

From C. E. BUCKLAND, Esq., Private Secretary to Sir Richard Temple, to the
ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

Taluks and
zemindaris
visited by Sir
Richard
Temple.

I am directed to submit, for the information of the Government of India, a copy of the list of taluks and zemindaris visited by Sir Richard Temple in the districts of the Madras Presidency and in the Mysore State between the 14th January and the 14th March.

LIST of the Taluks and Zemindaris visited by SIR RICHARD TEMPLE in the districts of the Madras Presidency and of the Mysore State.

Month.	From 14th January to 14th March 1877.	Condition of affairs at time of visit, as observed by Sir Richard Temple.
<i>In the Karnool District</i> (8 taluks).		
January - -	Ramalkota taluk - -	Relief works excessive and beyond control, but being brought under. Tehsildar and Deputy Collector moderate in ability.
February - -	Pattikonda „ - -	Relief works in fair order; tehsildar of good ability.
<i>In the Bellary District</i> (15 taluks, 1 zemindari).		
January - -	Gooty taluk - -	Relief work not well in hand.
Ditto - -	Bellary „ - -	Relief work open to objection during my first visit; better during my second visit.
and		
February - -	Alur „ - -	Relief work not under control; great want of discrimination; tehsildar indifferent.
February - -	Adoni „ - -	Relief work excessive and uncontrolled; but reform being introduced by Mr. Glenny, C.S., and Captain Hamilton; tehsildar pretty good.
Ditto - -	Hospett „ - -	Relief operations in fair order; Native Deputy Collector and tehsildar good.
Ditto - -	Tadputri „ - -	Ditto ditto; tehsildar good.
Ditto - -	Anantapur „ - -	Ditto ditto; Native Deputy Collector and tehsildar good.
Ditto - -	Dharmaveram „ - -	No particular remarks.
Ditto - -	Pennekonda „ - -	Under Mr. Ross, C.S.; relief operations had been much out of control, but were improving.
Ditto - -	Hindupore „ - -	Relief operations not well in hand; tehsildar very indifferent.
Ditto - -	Sundoor zemindari - -	Under Mr. Macarthy; relief works fairly under control.
<i>In the Cuddapah District</i> (11 taluks).		
January - -	Cuddapah taluk - -	Relief operations had been somewhat out of hand, but were improving.
March - -	Sedhout „ - -	Relief works under control; tehsildar good.
Ditto - -	Budnail „ - -	Relief works appear to be in control.
February - -	Madnapalli „ - -	Under Mr. Gribble, C.S.; relief operations had been out of hand, but were fast improving.

Month.	From 14th January to 14th March 1877.		Condition of affairs at time of visit, as observed by Sir Richard Temple.	
<i>In the Nellore District</i> (9 taluks, 4 zemindaris).				
February	-	Nellore taluk	-	Relief operations chiefly confined to East Coast Canal.
March	-	Atmakur „	-	Relief works fairly under control; tehsildar good.
Ditto	-	Udayagiri „	-	Under Mr. Underwood, C.S.; signs of poverty; doubtful whether village relief sufficient.
February	-	Goodoor „	-	Tehsildar moderately good; doubt about sufficiency of village relief.
Ditto	-	Venkatagiri Zemindari	-	Relief apparently not sufficient; three zemindars not doing enough.
<i>In the North Arcot District</i> (9 taluks and 13 zemindaris).				
February	-	Chandragiri taluk	-	In good case, save one corner which was bad but under relief; tehsildar good.
January	-	Chittore „	-	No particular remark.
Ditto	-	Palmanair „	-	No particular remark; tehsildar good.
February	-	Gourittam „	-	Not in bad case.
January	-	Wallajah „	-	No particular remark.
Ditto	-	Arcot „	-	Tehsildar good.
Ditto	-	Vellore „	-	Town relief in a doubtful condition.
Ditto	-	Poonganoor Zemindari	-	Relief operations well under control; zemindar good.
February	-	Carvátanagar „	-	Western part pretty good; eastern part bad.
Ditto	-	Kalustri „	-	One of the worst parts; relief insufficient, but further orders issued by Collector.
March	-	Arni „	-	No particular remark.
<i>In the Chingleput District</i> (6 taluks).				
January	-	Sydapet taluk	-	Village relief apparently not adequate.
Ditto	-	Chingleput „	-	No particular remark.
Ditto	-	Conjeveram „	-	Ditto ditto.
<i>In the Trichinopoly District</i> (5 taluks).				
January	-	Trichinopoly taluk	-	No particular remark.
Ditto	-	Kullitalel „	-	Ditto ditto.
<i>In the Madura District</i> (6 taluks, 26 zemindaris).				
January	-	Dindigul taluk	-	Drought; some relief operations.
Ditto	-	Madura „	-	Drought; relief kept down, as not yet needed.
Ditto	-	Tiroomungalum taluk	-	Ditto ditto.
<i>In the Tinnevelly District</i> (9 taluks, 22 zemindaris).				
January	-	Tinnevelly taluk	-	Drought; but relief very moderate.
Ditto	-	Ottapadaram „	-	Ditto ditto.
Ditto	-	Suttoor „	-	Ditto ditto.
<i>In the Coimbatore District</i> (10 taluks).				
March	-	Perundoria taluk	-	Relief work satisfactory; good tehsildar.
Ditto	-	Palladum „	-	Ditto ditto.
Ditto	-	Coimbatore „	-	Ditto ditto.
January	-	Kunoor „	-	No particular remark.
Taluku. Zemindaris.				
In the 10 districts named there are - - 88 66*				
Sir Richard Temple has visited - - 42 6†				

* Many of these are petty.

† The visited are all large and important.

Month.	From 14th January to 14th March 1877.	Condition of affairs at time of visit, as observed by Sir Richard Temple.
IN THE MYSORE STATE.		
<i>In the Bangalore District.</i>		
Taluks and Zemindaris visited by Sir Richard Temple.	February - - Bangalore taluk - -	Relief works well under control; doubt only about village relief.
	Ditto - - Dooda Bullubpore taluk - -	Ditto ditto.
<i>In the Kolar District.</i>		
	February - - Chik Bullubpore taluk - -	Ditto ditto.
	Ditto - - Baggapally taluk - -	Ditto ditto.

Grand total of 46 taluks } Visited by Sir Richard Temple.
 „ 6 zemindaris }

No. 239.

No. 170.

No. 15 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
 to the SECRETARY OF STATE FOR INDIA.

Calcutta, 16th March 1877.

Reviewing
 Sir Richard
 Temple's
 minutes
 * Nos.138-9.

We enclose copies of minutes and memoranda which we have received from Sir Richard Temple during the past week, regarding various matters connected with the famine in the Madras and Bombay Presidencies.

2. Among these papers will be found an interesting report on the district of Nellore,* together with a separate minute proposing the early commencement, as a famine work, of an irrigation work in that district known as the Sangam project. Nellore is a large district on the east coast, of which the southern boundary is about 50 miles to the north of Madras. Its area is 7,150 square miles, and its population, according to the last census, 1,374,012. During the 10 months ending with the 31st January last, the rainfall was only 11 inches 35 cents. In the previous year, 1875-76, the rainfall had been scanty, amounting to 26 inches 49 cents., against 37 inches 40 cents., the average rainfall of the preceding four years. In 1874-75 there had been heavy floods, and many important tanks and channels had been breached. Two years of drought following a year of floods had greatly tried the resources of the district. The total yield of the crops of the district for the present year is estimated at less than one-fourth of the average out-turn, although the people with commendable industry have in some parts of it dug temporary wells and deepened old wells, and thus raised a spring crop. The drought was worst in the western taluks, at the base of the Eastern Ghâts, and adjoining the district of Cuddapah. The number of persons on the relief works at the time of Sir Richard Temple's visit was 85,000, or about 6 per cent. of the population of the district. Sir Richard Temple inspected about 17,000 labourers, and found very few who appeared to be in a condition to sustain themselves. He considered that much more discrimination had been exercised by the Nellore authorities in admitting persons to the relief works than had been the case in the ceded districts; but that the depressed condition of some of the persons he had seen on the works, indicated the necessity of a house-to-house visitation more systematic than had been as yet introduced. Some of the relief works were useful, but many were of doubtful value, and task-work had often been little better than nominal. The small local works, in fact, had been made too easy and too attractive, and as we noticed in our last Despatch, great difficulty was in consequence experienced in inducing the people to go to the one large relief work, the East Coast Canal, which runs through the district, and which Sir Richard Temple describes as the very best relief work in all Southern India. The markets are well supplied with grain, coming both by inland and by water routes.

Sangam
 project.
 † No. 135.

3. Of the Sangam project, Sir Richard Temple writes † that the plans and estimates are ready, and the work could be put in hand at once. Its estimated cost is 27 lakhs, the irrigable area 94,000 acres, and the estimated return from water tax 2½ lakhs. Sir

Richard Temple considers, from the information supplied to him by the District Engineer Sangam that, of the entire project, works estimated to cost 19 lakhs, and to yield an annual revenue of $1\frac{3}{4}$ lakhs, might be executed in a great part, at all events, by relief labour. He has suggested the work to the Madras Government as one which is deserving of consideration, at a time when so much stress is laid upon the expediency of employing relief labour upon really good and reproductive works. The suggestion is doubtless receiving the consideration of the Government of Madras, with whom we shall communicate upon the subject.

4. Sir Richard Temple has paid a third visit to the district of North Arcot,* having received conflicting accounts regarding the degree of distress in certain parts of it, and having had reasons to fear that in other parts, and especially in the zemindari tracts, chiefly in the north-east of the district, the distress might become serious. The results of his inspection appear to have been more satisfactory than he had anticipated. In a great part of the Chandragiri taluk the spring crops were good. The Kárvetnagar zemindari, with the exception of the eastern portion of it, had not suffered from drought. The autumnal showers had given it a fair winter crop. Irrigation from wells and from watercourses was giving it a good spring crop. In Kálahasti, on the other hand, which is the other great zemindari in North Arcot, the drought had been exceptionally severe. Sir Richard Temple made suggestions for improving the system of gratuitous relief, and extending that of house-to-house visitation, and also for arranging some light textile work on which the distressed weavers (a numerous class in the North Arcot district) might be employed.

North Arcot.
* No. 137.

5. The results of Sir Richard Temple's visits to North Arcot are summarised in the following terms:—

"I find that distress does not threaten the mass of the people; that the numbers on relief works will probably not much exceed the comparatively small number now employed, if only the usual showers of April shall last; that the numbers on charitable relief will probably increase considerably as the season advances; that in the old towns scattered over the district, in the sacred haunts so much frequented by pilgrims and beggars from distant places, and in the jungle tracts fringing the edges of the district, there are classes among whom many cases of individual distress are to be expected; that on the whole the relief measures taken in hand are sufficient to meet that degree of distress which is to be anticipated; that the relief works are of a small description, the number of able-bodied relief labourers not being large enough to justify their congregation upon large works, but if such large works should be wanted, there are many tanks to be repaired; that in some particular places the delay which at one time occurred was owing to technical and other reasons beyond the control of the local authorities; that the arrangement for house-to-house visitation in every village (save the zemindaris, which are being separately arranged for) are very systematic and satisfactory. I have discussed with the Collector every measure of relief which I can think of. My impression is, that he is now doing everything which ought to be done in this respect."

6. Among the enclosed papers will be found a review by Sir Richard Temple † of the objections advanced by the Sanitary Commissioner at Madras to the reduced scale of wages lately prescribed for the relief works in that presidency. The gist of Sir Richard Temple's remarks is, that the present rate of wages appears, so far as experience goes, to be sufficient to maintain in health people employed on the very light work which is enforced on most of the relief works in the Madras Presidency, and provides as much food as the labouring poor in rural localities get in ordinary times; that it is not possible to determine *à priori* on scientific data what amount of food is necessary to sustain the particular classes who come to the relief works; that the effect of the present rates should be tested by careful practical examination of the people themselves; and that, if it should appear that there is a change for the worse in their physical condition, the rates should be raised, but not otherwise, and that wherever really hard labour is exacted a higher rate of wages should be given. This is practically what is now being done in the Bombay Presidency. Sir Richard Temple has, within the last few days, had a personal conference on this subject with the Government of Madras; and from a telegram from his Grace the Governor which reached us on the 14th instant, we learn that "the Governor in Council having considered various reports" (from district officers) "has decided to defer the consideration of the general adequacy of the scale for further report; the special attention of officers being directed to securing that labourers receive full benefit of allowances, and to scrutinising all cases of apparent weakness; children under 10 being relieved from test work, and weakly persons being formed into special gangs with special nourishment where necessary."

The reduced
scale of
wages.
† No. 144.

Insufficient
grain trans-
port.

7. In our Despatch of the 9th instant we adverted to the insufficiency of the means at present available for transporting grain from Madras into the interior, the Madras Railway not being able to carry more than 700 tons a day. The subject has been engaging the careful attention of our Public Works Department, and arrangements have been made, which it is hoped, will have enabled or will speedily enable the Madras Railway Company to carry 1,400 tons a day. Satisfactory arrangements have been made for sheltering and housing the grain, both public and private, on the Madras beach.

Estimated
cost of
famine.

* No. 140-1.

8. In his Minute of the 6th instant, No. 54,* and the memorandum* annexed to it, Sir Richard Temple has furnished a revised estimate of the expenditure on and loss of revenue from the famine. The result is a total estimated loss of five crores and Rs. 281,000. In the financial statement made yesterday in the Legislative Council by our colleague Sir John Strachey, the net cost of the famine is set down at five and a quarter crores of rupees, or five millions and a quarter, according to the old calculation of 2s. for the rupee, of which sum 3,100,000% will fall on this year, and 2,150,000% on 1877-78. This estimate does not take into account future recoveries of land revenue suspended for the present, which Sir Richard Temple estimates at the considerable sum of Rs. 1,29,50,000 out of Rs. 1,87,96,000, which must for the time be left uncollected. The question whether these balances should be held in suspense or entirely remitted, is one which, as stated in our Despatch of the 16th ultimo, we have deemed it proper to leave to the unfettered discretion of the Local Governments. Sir Richard Temple states in his present minute (paragraph 19) that many of the most experienced Collectors in both the Madras and Bombay Presidencies are in favour of the plan of suspending only, and not entirely remitting, the land revenue on the dry or unirrigated lands. These opinions and the grounds upon which they are based will doubtless receive due consideration from both the Governments concerned. For the present, however, we have deemed it safer to exclude from our calculations any reduction of the cost of the famine from this source.

9. We have this day received the following telegrams from Sir Richard Temple:—

Telegram, dated 15th March.

"I proceed for few days to Bombay Presidency. Throughout Madras Presidency the relief works are now fully controlled and carefully restricted to dimensions of actual distress. Much credit due to local officers in districts. The organisation of charitable relief not equally successful, but further efforts being put forth. Destitute people often unwilling to resort to relief camps. Some casual deaths near Madras itself still happen, chiefly owing to insufficiency of measures in three large remindaries. Remedy being applied. Reduced wages still being tried. Spring crops good in many parts of distressed districts; prices somewhat stiffening. Condition of people good generally, but cholera breaks out temporarily in many places. Large accumulation of grain at Madras well housed. Anxiety about railway arrangement on Madras and Bombay lines. Still hope that these two lines will supply the large and active demands of inland grain trade. Markets continue well supplied."

Telegram, dated 16th March.

"In continuation of yesterday's telegram for mail. It was ordered a month ago throughout Madras Presidency that if any children below seven years of age, belonging to persons employed on relief works, cannot be supported, they shall receive special relief. This is being carried out with my full concurrence. Children above seven have from beginning received relief wages. It has also been ordered, with my full concurrence, that if any relief labourer shall be found to suffer physically from reduced wages, he shall receive special allowance, or else be put to light work. Have complete evidence that most of the large gangs are standing the reduced wage without suffering. Whether they can bear it, as the season advances, remains to be seen. Having inspected in the presence of many officers about one hundred and thirty thousand relief labourers in scattered gangs throughout Madras Presidency, I have reason to believe the physical condition of these people to be generally good. I picked out in every gang every person who seemed below par, and suggested special measures regarding each individual."

10. There has been a further decrease in the number of persons on the relief works both in Madras and Bombay. In the former presidency the number, according to the latest return, was 657,365 against 667,443, the number for the previous week. In Bombay the number was 223,865 against 263,053, the total reduction in the two presidencies

being thus 49,266. In Bombay, however, there were also children under seven years of age, and women in charge of them, to the number of 44,150.

In the number charitably relieved there was an increase of 10,226 in Madras, and a decrease of 999 in Bombay, the totals for the two presidencies being 58,317 and 5,566 respectively.

The Mysore returns give 38,808 persons as employed on the relief works under civil officers, in addition to 30,794 employed by Public Works agency, and 30,097 in the receipt of charitable relief, making a total of 99,699.

We have the honour to be, &c.

(Signed)

LYTTON.

ALEX. J. ARBUTHNOT.

J. STRACHEY.

No. 171.

No. 181.

No. 131, dated Sholapur, 16th March 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the REVENUE ADDITIONAL SECRETARY
TO THE GOVERNMENT OF INDIA.

I am directed to submit a minute * recorded by Sir Richard Temple regarding the need for maintaining a steady and sufficient importation of northern grains into the famine districts of the Madras Presidency.

* No. 158.
Grain supply
from north-
ern India.

2. Sir Richard Temple has directed Captain Bisset of the Railway Department, who is attached to his staff, to visit Bombay and the Nagpore section of the Great Indian Peninsula Railway, with a view to consulting with the Consulting Engineer of the Bombay Government, and the Great Indian Peninsula Railway authorities as to the best means of securing the result to which Sir Richard Temple attaches such great importance.

No. 172.

LXX.—MINUTE by SIR RICHARD TEMPLE, dated Sholapur, 16th March 1877.

When I was at Madras this week, his Excellency the Governor expressed anxiety as to the requirements of and the supply of grain to the province of Mysore. His Grace was apprehensive lest, if any accident should temporarily arrest the daily supply of railway-borne grain to Mysore, the demand of the Mysore population might cause sudden depletion and dearth in the bordering districts of the Madras Presidency. His Grace therefore asked me to let him know whether Mysore had any accumulation of imported grain and to review my calculation on the Mysore supply question, and to consider whether that calculation was ample, and whether it was within the power of the railways according to the practical working thereof, at the time when the western ports shall have been closed by the monsoon.

Mysore grain
supply.

2. I have caused the appended memorandum † to be drawn up, stating in detail how matters are, according to the latest available information, believed to stand. I do not think there is in Mysore any considerable accumulation of imported grain. Such grain as comes to the railway stations is either consumed or despatched into the interior. I estimate the outside Mysore requirement at about 570 tons of imported grain per diem; and I believe that the railways can maintain this supply together with sufficient supplies for the Madras districts, even after the western ports are closed, provided:—

No. 166.

(1.) That the Negapatam route is fully worked.

(2.) That six additional goods engines can be borrowed and placed upon the Madras Railway.

Regarding these two provisos, I have recorded separate minutes, and I therefore need not dwell upon them again.

3. A copy of this minute will be laid before the Chief Commissioner of Mysore, with my recommendation that his Government should investigate the accuracy of the estimates offered in the enclosed memorandum; should watch the importations closely so as to take steps in case they decrease; and should urge very strongly on Bangalore dealers the need for employing the Negapatam route.

Nos. 189.
213.

No. 173.

Dated Elphinstone Park, Madras, 16 March 1877.

DEMI-OFFICIAL from the COLLECTOR OF CHINGLEPUT DISTRICT to the SECRETARY TO SIR RICHARD TEMPLE.

Land revenue remissions.
* No. 160.

In reply to yours of the 13th,* I would observe that, when I conversed with you and Sir Richard Temple, I was unaware that it was even in contemplation to suspend collections, and had no idea whatever of being "able to realise much of the balance due on "dry crop lands next year if the seasons are favourable." I have since on the 1st February 1877 requested the Board of Revenue to remit all dry waste absolutely.

As to the possibility of collecting such arrears "under any circumstances," I do not recollect expressing an opinion; but if I did, it would have been that to do so would entail coercive process, was unadvisable, and would ruin the ryots already impoverished by an almost unprecedented succession of bad seasons.

No. 181.

No. 174.

LXIX. — MEMORANDUM by MR. C. E. BUCKLAND, Private Secretary to Sir Richard Temple, on the CONDITION of the ALUR and TADPATRI TALUKS of the BELLARY DISTRICT in the latter part of February 1877.

Alur and Tadpatri taluks.
(Bellary.)

About the middle of February Sir Richard Temple was much struck with the excessively large numbers of relief labourers in the taluk of Alur in the Bellary district, in which 47,000 persons were receiving relief out of a total population of 95,000. He had a conversation with Mr. Glenny, the Sub-Collector, who stated that the number was apparently much too high, but that Mr. Maltby, the Relief Officer, and the tahsildar, would endeavour to reduce the number, and to limit relief to those who really needed it. Sir Richard accordingly made inquiry from Mr. Maltby and the mamlatdar, and ascertained the following facts.

2. There had been no rainfall in the taluk since last July, only a few showers; many of the cattle were dying. There was plenty of grain throughout the taluk, and no need to import any in behalf of Government. There were stocks in the country, though the amount could not be stated. Every market-day some 50 cart loads of rice and cholum are brought in. The price of cholum was 8 seers (of 80 tolas) the rupee; on market-day 9 seers. Rice was $7\frac{1}{4}$ seers the rupee; on market day $7\frac{1}{2}$ seers. The ordinary food of the people is cholum.

3. On the 10th February the then last returns showed 46,643 on the relief works out of a population of 94,995, viz., 19,206 men, 20,277 women, and 7,160 children, distributed on six roads thus: (I.) Alur-Bellary, 6,117; (II.) Alur-Auspri, 8,264; (III.) Alur-Goondakul, 14,212; (IV.) Alur-Adoni, 4,599; (V.) Alur-Sirgoopa, 4,803; (VI.) Adoni-Sirgoopa, 8,648. The road from Auspri to Alur had lately been closed under orders from the Sub-Collector, who had directed that only two roads should be open in the taluk, viz., (I.) from Alur to Goondakul, and (II.) from Alur to Sirgoopa (*via* Raveri on the Haggari River). About 1,500 relief labourers on the Auspri-Alur road had lately "struck"; they were inhabitants of neighbouring villages, and said that they could not go to the Goondakul road. On the Goondakul road there were at that time from 15,000 to 16,000 labourers, chiefly of the Chukla, Bhoya, and Pariah castes, most of whom had been for three or four months on the works and were said to have improved in appearance during that time. The daily wage had lately been reduced from 2 annas, 1 anna 6 pie, and 9 pie, to 1 anna 6 pie; 1 anna, and 6 pie, for a man, woman, and child respectively. The numbers were gradually diminishing on account of the closing of all but two roads. Orders had some time before been received in the taluka to turn off coolies who had got landed interests, ornaments, or grain. Orders to admit no new labourers, except those who appeared to be really in need, had also reached the tahsildar.

4. The numbers on relief works had risen from 20th to 27th January from 38,528 to 49,257 in consequence of the transfer from the Adoni taluk of labourers on the Adoni-Sirgoopa road, which took place on the 15th January, but was then first brought into account.

5. The sum of Rs. 2,49,268 had been spent on relief works, and Rs. 347 on gratuitous relief up to date. Task-work was not exacted. Government tools were supplied, but apparently not in sufficient quantities.

6. For famine relief work the tahsildar had under him one sheristadar, three famine inspectors, one revenue gomashta, five paymasters, and throughout the taluk 132 mistries (gangmen) at Rs. 8 a month, and 1,015 kolkars at 4 annas a day. The coolies were paid twice a week, and did no work and received no pay on Sundays. They were supposed to work from 7 a.m. to 5 p.m., stopping for an hour during the day. They declined to bivouac out at night. Cases were known of people going 20 to 25 miles to work, and the refusal of the labourers on the Auspri-Alur road was recognised as a sign of their being in no great want. Two months before orders had been received to stop the small works, such as the small tanks and wells; also the orders to make the labourers bivouac near the roads had reached the tahsildar.

Alur and
Tadpatri
taluks.

7. No death from starvation had been heard of. One hospital assistant had been specially sent, and there was previously one hospital assistant. There was no cholera prevalent and very little small-pox. There had only been eight cases of cholera since the 20th January.

8. Gratuitous relief was being given at seven places in the taluk, viz., Hoolagundy, Teddahotoor, Auspri, Alur, Nuggurdroog, Santicooloor, Halhuroy, each of them the centre of a circle containing about 20 villages. There was a reddy in charge of each poor-house. The Alur poor-house had been open some two months; the others had recently been opened. There were altogether on gratuitous relief perhaps 150 persons, of whom some 75 were in Alur. The orders of Government to the effect that the village authorities were responsible for relieving any person found to be in a badly reduced condition had been received in the taluk two months before, and the reddies were said to be aware of their duties.

9. There had been no dacoities since last September, and crime hardly existed. The people were quiet, as the road-works were open; if they had not been opened there would have been many crimes.

10. On the whole, looking at all the facts, Sir Richard Temple was of opinion that the numbers in this taluk were excessive as compared with any standard of relief that had been allowed in the Madras Presidency; that the excess was calculated to demoralise the peasantry of the taluk; that the main causes were the non-exaction of anything like real task-work, and the employment of the people too near to their homes, they being employed on lines of roads running through their own villages; that the judicious orders given by the Sub-Collector, Mr. Glenny, had not been carried out by the tahsildar, and Mr. Maltby, though willing to do his best, was not sufficiently experienced to be able to keep the tahsildar in order; that Mr. Glenny was himself aware of these defects, and would doubtless take the earliest opportunity of rectifying them after personal visitation.

11. At Tadpatri Sir Richard Temple ascertained the following facts:—The population of the Tadpatri taluk is 115,000. About 12,000 persons were on the relief works, and 1,565 in receipt of gratuitous relief. On the 17th February there were 10,501 on relief works; on the 19th there were 11,600; the increase had taken place on the Yadaki and Bellary roads, under the orders of Mr. Sharkey, the Deputy Collector, and two road superintendents. On the tahsildar's roads, those to Cuddapah and Anantipur, there had been no increase.

Two months previous there were 13,000 persons on the works. On the 2nd February orders were received to turn off all respectable people, pattadars, those with ornaments, on which 2,000 had been rejected.

12. On each of the Anantipur and Cuddapah roads there were about 2,500 relief labourers, for the most part engaged in stone-breaking, as they sat in gangs under the trees while a number of them collected the stones from the fields. There was a kolkar in charge of each gang. Since the 17th of February the men had been receiving 1 anna 6 pie, the women 1 anna, the children 6 pie, instead of the 2 annas, 1 anna and 6 pie, and 9 pie they obtained formerly. On the Cuddapah road there had been 4,000 labourers in January. The gangmen had been directed to take on nobody without the tahsildar's orders. No child was admitted to the works under seven years old, nor to the poor-house if they had parents alive. Up to the 19th February Rs. 2,500 had been spent on gratuitous relief, and Rs. 80,000 on works in the taluk. There were 351 recipients of gratuitous relief.

13. There was plenty of grain in the markets in the taluk. Jowari was at 9½ to 10 seers the rupee. In November it was at 7 seers (never less), and the owners were disposed to hold their stocks; but importations made them produce the grain, and the prices fell. There were no crops on the dry land, and not more than 4 annas on the wet. There were two inches of rain in August and one inch last September.

Tadpatri
taluk.

14. Under the tahsildars there were four revenue inspectors and four paymasters in the taluk, one for each road, the four roads being (1) to Anantipur, (2) to Cuddapah, (3) to Bellary, (4) to Yadaker.

15. The tahsildar was aware of the necessity of simultaneously enforcing their responsibility for the villages on the reddies, and he expressed himself as able to manage the people without difficulty.

16. On the whole, Sir Richard Temple was of opinion that the tahsildar's proceedings were fairly satisfactory, but that Mr. Glenny might with advantage inquire why the number increased on Mr. Sharkey's road when there was no increase on the tahsildar's road. This might have occurred through Mr. Sharkey's want of local experience.

Nos. 179.
181.

No. 175.

Telegram, dated 17th March 1877.

From REVENUE ADDITIONAL SECRETARY, Madras, to REVENUE ADDITIONAL SECRETARY, Calcutta.

Government
grain reserve.

Government consider it imprudent to vary distribution of reserve grain at well-considered places. Suggested sale of grain now remaining in Madras would necessarily interfere with trade, and would be a breach of faith after public pledge that it was strictly held for emergencies. Government, therefore, cannot accept either of these suggestions, and have announced this decision, as publication of suggestion in Gazette has much unsettled trade. Your announcement of this decision to Calcutta and Burma will be useful to re-assure trade.

No. 213.

No. 176.

LXXVII.—MINUTE by SIR RICHARD TEMPLE, respecting the present condition of Relief Operations in Kurnool.

Sholapur, 17th March 1877.

Relief opera-
tions in
Kurnool.

In my minute dated the 20th January last, it was mentioned that Mr. R. Davidson, who had recently been appointed to the Kurnool district, was doing all he could to bring affairs into order; but that before his arrival, relief operations must have passed beyond control locally, and had been apparently conducted in a manner calculated to cause a heavy drain upon the Treasury and to render the people too dependent upon the State.

2. I have recently ascertained the condition of relief operations and the character of relief administration, as they now exist in the Kurnool district. I find that matters have very greatly improved, and the present state of affairs is as follows: Order and system have been introduced, a competent and energetic officer has been placed in full relief charge of every taluk, the gangs of relief labourers have been concentrated on a few works, and task-work is in many cases exacted; persons who could support themselves have gone to their homes; the revised wage rate, with the prescribed allowance for the infants of workpeople, has been fully adopted; the total numbers on relief works have fallen from 330,000 to 195,000; from five to eight relief houses have been opened in each taluk, whence cooked food is distributed to about 4,500* destitute people; these relief houses are inspected by the taluk relief officer, and abuses are prevented; the village officers are sending paupers into the relief houses, and the village relief organisation is being roused into activity by the constant supervision of European officers. So far as the local officers can ascertain, deaths from starvation are not occurring in the villages. The physical condition of the people on the relief works continues fairly good; private trade continues to be active, and the supply of imported grain is more plentiful than it was in January. System and economy were not enforced so early in the Cumbum division as elsewhere; but even there, also, matters are now brought into conformity with the instructions of the Madras Government. The local officers expect that the numbers on relief works and on charitable relief may reach 250,000 and 25,000 respectively, as the season advances and pressure on the people increases.

* NOTE.—The 2,200 persons who receive gratuitous relief in Kurnool city from private sources are outside this number.

3. Much of this result is due to the exertions of Mr. Davidson, the Collector, who, since the middle of January, has visited every part of the district, and has seen matters with his own eyes. Mr. Davidson is assisted by an efficient staff of Civil, Military, and Native assistants; he appears to be employing his assistants to advantage; but he asks

for additional engineering subordinates, and also for the services of selected officers and men of the Native army. The officials of the engineering staff are now co-operating with the relief officers. Relief operations in Kurnool.

4. Although much improvement has thus been achieved, and though the Madras Government has been so far well served by Mr. Davidson and his assistants, yet I am not able to report that every economy which, under other circumstances might be practicable, has been attained in Kurnool. It is noteworthy that the proportion of the population receiving relief is now much higher in Kurnool than in either Bellary or Cuddapah.

5. In my minute of the 20th January, I drew attention to the contrast between relief operations as conducted in Kurnool, and as conducted in the similarly circumstanced Bombay district of Sholapur. A renewal of the comparison between these two districts makes me believe that the relief operations in Kurnool may still be beyond the actual necessities of the case. I do not say that the scale of relief in Kurnool can, after all that has been done and permitted, come down to the Sholapur scale. But still I think the contrast is, both for our present information and for our future guidance, worth making, thus:—

—	Proportion of Crops saved in 1876-77, according to the Collector's Estimate.	Total Population.	Number of Persons on Relief Works.		Number on charitable Relief on 1st March.	Number of Relief Works opened 1st March.
			10th January.	1st March.		
Kurnool	1½ annas out of 16	917,000	330,000	194,000	3,651	About 24 works.
Sholapur	1 anna out of 16 -	718,000	93,000	48,000	500	16 Public Works Department works, besides 45 works for the 4,000 civil agency relief people.

A much wider and more general private charity is practised by the people of Sholapur and its towns than has been shown by the people of Kurnool and its towns. But, with this exception, I am unable to point to any sufficient explanation of the very great difference between the extent of relief operations in the two districts. Probably there may be some undetected differences in the circumstances of the two districts; still I cannot think such difference could be sufficient to account for the great excess of Kurnool relief expenditure over Sholapur. In the Sholapur district the staff of relief officials is very ample; each village has its patel (headman), and its kulkarni (accountant); over each circle of 10 villages has been placed a special relief inspector; and in every taluk is stationed a European or Native assistant and a mamlutdar (tahsildar), whose whole time is given to relief work and to village inspection. On the information furnished by this chain of relief officials, the Collector is able to say that the condition of the village people is (17th March) fair everywhere, and that the people are not starving at their homes. It is, therefore, reasonable to conclude that the Sholapur relief operations suffice for the necessities of the case.

6. I believe one great cause of the difference in the numbers on relief works in the two districts is, that for several weeks work has not been offered to Sholapur villagers close to their homes; while in Kurnool everybody could at first, and very many can even now, find easy relief work at fair wages close to their homes. The attention of the Collector might still be given to this point. It is probable that when the Kurnool relief officers pick out gangs of 20,000 stalwart relief labourers for transfer to Nellore, many may decline to go, and in this way the numbers will decrease by the act of the people themselves.

7. It may be well to draw attention to the necessity for keeping one point in view. The Government grain reserve in Kurnool amounts, so far as I could ascertain, to from 10,000 to 12,000 tons. This grain is being housed and protected, and it is not now being used at all. Grain for relief-house expenditure is bought in the local markets. But it will have to be considered at what season and in what manner this grain ought to be disposed, so that large quantities may not be kept on the hands of Government when the next season's crop ripens.

No. 181. LXXV.—MINUTE by SIR RICHARD TEMPLE, on the Labour Test and the Wage Test.

Sholapur, March 18, 1877.

Labour test
and wage
test.

I desire to offer certain remarks on the labour test and the wage test, which remarks are suggested by my experience of two months spent amidst the thick of the relief operations in the Madras Presidency.

2. At the outset of the affair, that is, in the last week of December and the first week of January, there was an extraordinarily large number of persons of both sexes on relief

*Bellary	-	420,000
Kurnool	-	320,000
Cuddapah	-	210,000
Total	-	950,000

works in the districts of Bellary, Kurnool, and Cuddapah; about 950,000* persons out of a population of four millions, or about one-fourth of the whole people. No doubt the failure in 1876 of the south-east or later monsoon, following a failure of the south-west or earlier monsoon, did cause distress to come on with unusual rapidity, and, as it were, precipitated the outbreak of famine. Still, in reference to the early period of the season, to the length of time which had to run before the next coming rains of 1877, the accession of such great numbers was calculated to excite surprise and alarm. If these districts, it may be asked, showed as many as 950,000 persons in the first or second week of January, what would they be showing in March, and still worse, what might they show in May?

3. At the beginning of January 1874, the relief works in the worst districts of Bengal, Behar, showed hardly more than a few hundreds, or at the most but a very few thousands. The numbers remained low till the middle of March. They reached their culminating point hardly before the end of April. If then Bellary, Kurnool, and Cuddapah had nearly a million by the middle of January, what, it was anxiously inquired, would be the enormous muster roll of April and May? No doubt there is a difference of at least one month of season between these districts and Bengal, which difference might bring on the outbreak of famine a month earlier in these districts than in Bengal. Still this would not fully account for the remarkable haste with which the famine seemed to be approaching in the Madras Presidency. There must have been something in the system which had begun to be pursued to encourage people to resort to the relief works.

As a matter of fact, the numbers on relief works in these three districts have fortunately not gone on rising and rising in the manner which was to have been feared; on the contrary, they have been falling and falling. The necessity of additional precautions was immediately represented to the Madras Government, who promptly took various measures accordingly. The execution of these measures has since been diligently watched. The total for the three districts is now under 500,000, thus:—

Bellary	-	240,000
Kurnool	-	195,000
Cuddapah	-	58,000

And it may now be said (though with various qualifications), that the relief works in these three districts are on the whole supervised tolerably well, and that the numbers are reduced in a manner partly in some degree (though far from exactly) proportionate to the dimensions of actual distress. So far the Madras Government may be congratulated on the result. But the ideas in the minds of the people, which produced the original excess in numbers, are still existing, and would again burst into activity, if vigilance were to be relaxed even for a moment. It is therefore practically useful to consider what those causes were, and how they have been or are to be remedied.

5. The causes were—

Offering of work close to the homes of the people;

Rendering the work light and easy;

Making the wages worth having irrespective of bare subsistence;

Admitting all comers, without any question as to whether they were able to sustain themselves for a time;

Allowing all applications for employment without exception.

These several concessions are deemed by the rural country people to be considerable advantages.

6. The remedy has been, withholding these advantages, making the scene of work more distant from home, causing the labour to be more hard and irksome, rendering the wage less advantageous, and besides, rejecting all those who appeared able to support themselves for a time, at least.

7. It was at the outset held in the Madras Presidency that the wage offered, though liberal enough in ordinary times, would be thought low in reference to the high prices of scarcity time, and that the rural and agricultural classes would not resort to the works

under such circumstances unless really pressed by want. It was doubtless hoped that the works would be so distributed as not to be too near and handy to the relief labourers, and that task-work would by degrees be enforced. It was probably difficult, under the pressure of last December, to fulfil this hope. At all events, from one cause or other, it was not fulfilled; the works were easily accessible, and the task-work was nominal.

Labour test
and wage
test.

8. Then an important circumstance became observable, namely, this, that rural classes who are not yet pressed by want, who are able to sustain themselves, and to live without Government aid, will largely resort to relief work so long as those works are close at home, as the labour is easy and the wage worth having, and in the rural classes I include not only the menial servants in the villages, the beggars who subsist on village charity, the professional workpeople, the field labourer, the feudal serfs, but also the "pattadar" ryots (technically so termed), that is, the peasant proprietors, ryots having a beneficiary interest in the soil under the ryotwari settlement, and paying land revenue to Government. In some populous tract it came to this, that relief road ran through the middle of the villages, and the peasantry living on either side of the line within sight of it sauntered leisurely on to the works.

9. On or about the 1st of January there were some persons in all these classes who, even at that early date, really needed relief, and would have submitted to much trouble in order to obtain it. There were, however, many who would gladly take relief if they could get it without trouble, but who would prefer to dispense with it rather than submit to such trouble. There were thousands and thousands of powerful men, representing what would be termed a fine peasantry, whose physical condition would be called splendid, who thus got State wages for some few weeks, under the name of relief, though to them it really was gain. This has been indeed checked. But that this should be the view taken by so many of the peasant proprietary (as it was actually taken by tens of thousands of them) is a circumstance to arouse reflection.

10. It was natural enough, indeed, that such a view should be taken by the rural classes. A man and his family are not in actual want; they are not prepared to interrupt their domestic arrangements or to undergo severe toil; they are not willing to encamp out, perhaps to bivouac, to be on the work all day in inclement weather; still the times are hard, and may become harder, their ordinary work is slack; they have nothing in particular to do, they would be glad to make a little money, which would come in usefully, would replace dead cattle, would help to pay for deepening the well for irrigation, would reduce the debt to the village banker, and so on. And at that time (January) a man might have thus earned Rs. 3 $\frac{3}{4}$, his wife Rs. 2 $\frac{3}{4}$, and say his two elder children Rs. 3 $\frac{1}{2}$ more, in all Rs. 10 in a month; in four months (probable duration of distress) Rs. 40 would be obtained, which is really a consideration to a rustic family. If, then, the relief works suit this idea, they afford a temptation to tens, even to hundreds of thousands. Thus it is that resorting to relief works is *not* necessarily a test of distress: Thus it is that State charity becomes indiscriminate and superinduces a certain sort of demoralisation. That some demoralisation was beginning to creep into the rural community in these districts I distinctly apprehended, though we may now trust it has been checked. And the State, however much it may be bound to save life and to prevent extreme distress, is not bound to allow this; on the contrary, is bound to set its face against everything of the sort.

11. When, therefore, the numbers on the relief works became so much reduced during February, the main causes were the distribution of the works so as to render them more distant from the homes of the workpeople and the augmenting of the task. Instance after instance has occurred of gangs, some thousands strong, being told that the road on which they were engaged was sufficiently finished, and that they must march on to another road ten miles, even five miles off, and then melting away or never mustering again; or being told that they must do such and such a task, and rejoining that they did not like this, as it would involve so many hours a day, and then ceasing to appear. This is not, of course, the demeanour of persons who are in real need. And yet it has been exactly the demeanour of a large part of the million of relief labourers in these three districts during January.

12. When, therefore, it is sometimes asked how such large numbers were turned off during February, the answer is that for the most part they turned themselves off, and that they chose to be at rest on finding that they could not get relief on their own terms.

13. A certain number no doubt were picked out to be discharged, under the rule that those were to be rejected who seemed able to sustain themselves for a time, at least.

14. The reducing the wage, also, is calculated to keep people away from the works by diminishing the inducement, but it has not been long enough in operation to produce any marked effect.

15. As a remarkable example in a district adjoining these three districts, I may cite the case of the East Coast Canal, an excellent work under professional supervision. Labour is sorely needed for this work. The district all around it (Nellore) is much distressed, and might well send, say, 30,000 labourers to it (in addition to the few thousands already sent). But the rural poor of Nellore were at the outset comforted by convenient village works, and they refuse to leave these works to go to the canal; if pressed to go they strike work and decline relief altogether on such terms. Similar efforts were made, under stringent orders of the Madras Government, in Bellary, Kurnool, and Cuddapah, to induce relief labourers to go to the canal, but with very little success.

16. I distinctly apprehend that thousands and thousands of stalwart relief labourers in these several districts will leave the little village works and refuse relief altogether sooner than go to the canal or to any large public work under professional supervision, at any, even a moderate distance from their homes. I should even fear that they will undergo some distress and privation before they will yield, if indeed they ever do yield. It is indeed manifest enough that people who thus behave cannot be in severe want, nevertheless, the test of going away from home ought to be persistently applied to able-bodied applicants for relief. This can be done by concentrating operations as much as possible on larger works which have been or may yet be suggested. In my minute of the 14th February was said all that then occurred to me regarding these larger public works in the Madras Presidency.

17. I have never been insensible to the objection that these larger public works might cause extra expense in one particular way, namely this, that professional labourers might be engaged for them on account of their skill and efficiency, who might not be in absolute need, or who might have been able to obtain private employment; for experience shows that even in the distressed districts the practised and efficient labourers can generally find work for themselves; it is rather the inferior labourers, and they are legion, who suffer. But when a work of this description is opened, not primarily for the sake of material improvement, but for the purpose of relief, it is easy and necessary to order that no person shall be employed who is believed to be in any way able to sustain himself, for a time at least, or who lives so near that his attendance only shows that he is making a convenience of the work in order to earn a little money. And when this is ordered, then the only objection which exists to these works being undertaken for relief is removed.

18. On the other hand, the advantages of these professionally-controlled public works for purposes of relief are absolute. These works being at some distance from the homes of the people, involving some hardship and exposure, requiring people to camp out or to bivouac, exacting labour under engineering supervision, which cannot be cheated or evaded, restricting remuneration to work done according to "task" or "piece" and "measured up" professionally, supply a labour test, which assays the character of the relief-seeking classes, just as money is assayed at a mint. Those who are really in need must submit to all this. Those who are not in such need, but who would be glad enough to avail themselves of relief, that is, of State charity, if easily and conveniently obtained, will not submit. In the Madras Presidency the process of examining gangs of relief labourers, rejecting those who are well-to-do, and retaining those who are not, is described by an expressive phrase, "shroffing," in allusion to the manner by which a "shroff," or money-changer, tests the intrinsic value of the coins presented to him. The simple order to the able-bodied among the relief gang to proceed to one of the larger public works at a distance has immediately caused thousands of thousands to "shroff" themselves, that is, to take their discharge from the relief department altogether. And I apprehend that a similar order, if given even now, to many of the strongest gangs in Bellary, Kurnool, and Cuddapah would cause tens of thousands more to do the same. If indiscriminate charity by the State is to be avoided, if the charity is to be truly discriminating, relieving only those who are in want, and doing that effectually, then these larger public works afford a self-acting test.

19. The primary importance, therefore, of having large public works of this description ready beforehand for all districts where scarcity or famine is to be expected, becomes manifest. Even at this comparatively advanced season the plan may be still further worked with much effect in the Kurnool and Bellary districts especially.

20. It is to be remembered, of course, that there are many classes among the distressed poor who could not labour on these larger public works. For the employment of these people petty works must be provided close to their homes, and with but a very light task. But such works should be begun sparingly and as slowly and cautiously as possible, they should not be scattered all over distressed tracts until the famine has pronounced itself and the season of trouble has advanced, and none should be admitted

to them who could be reasonably expected to resort to the larger public works. The excess which occurred in Bellary, Kurnool, and Cuddapah, and which in the middle of January threatened, if not checked, to be overwhelming, arose because easy works close at home were opened all over these districts at the very commencement of the scarcity, and because there were hardly any large public works ready to which the able-bodied applicants for relief could be sent, under penalty of being discharged from relief if they should refuse to go.

21. Besides the petty relief works in the villages, there is the charitable relief to be administered by searching out every distressed person (even those who may fail to complain) by a house-to-house visitation throughout the country. But this important topic need not be pursued here.

22. Most or all of the considerations set forth in this minute are doubtless already known to the Government of India and to the Government of Madras. But the experience gained recently in the districts of Bellary, Kurnool, and Cuddapah affords such striking confirmation of the view, that I have deemed it my duty to record that experience while it is still fresh.

No. 178.

LXXVIII.—MINUTE by SIR RICHARD TEMPLE, recommending that immediate sanction be given to the Commencement of the Repairs to the Begum Talao in the Kaladgi district. No. 213.

Camp Wortee, Kaladgi district, 20th March 1877.

During my visit to the northern taluks of the Kaladgi district I had the advantage of visiting the large tank known as the Begum Talao, near the ruined city of Beejapur, in company with Mr. Molecey, the Executive Engineer, and Mr. Silcock, the Assistant Collector. This interesting reservoir was one of the sources of the prosperity of the city of Beejapur in the celebrated time of its Mahomedan sovereigns. If, as I learn to be the case, there is an intention of transferring the civil station of Kaladgi to Beejapur, which is centrally situated for the district, then the restoration of the great reservoir would be essential to such a plan.

Begum Talao Tank, near Beejapur, recommended for relief work.

2. I understand that a project has been prepared in the Irrigation Department, and approved by the Bombay Government, for putting this tank into order at a cost of about Rs. 50,000. The work to be done consists mainly of earthwork and of rough stone pitching. The Government have, however, directed that the work should not be begun as a relief work until there is absolute need for more relief employment in that part of the country.

3. Looking to the merits of the project itself, I find that this tank has an ample catchment area; that it can contain a very large supply of water; that its water used formerly to (and can again) irrigate a considerable area, and that it can supply drinking water to a great city; looking also to the fact that the embankment, more than one mile in length, is breached in two places only; that the silt, which has collected in great quantities at the bottom of the tank, can be easily excavated for the repair and heightening of the embankment; looking to all these considerations, I think that the repairing of this ancient reservoir is worthy of consideration.

4. From a relief point of view also, I should think that the work might well be undertaken. In that case its early commencement would appear to be very desirable. The situation of the work is salubrious. The numbers on relief works in the Kaladgi district have indeed fallen from 49,973 during the first week of February to 22,584 during the second week of March. But the local authorities anticipate that the numbers will again rise. Nearly all the road work that can in future years be maintained by the local funds has in this (the northern) part of the district been completed. And my inspections of about 6,800 relief labourers and of about 3,500 poor persons who are not in receipt of relief, satisfies me that, for the present at any rate, there is need for another large relief work in the Beejapur and in the south of the Indee taluk. On both grounds, therefore, the great usefulness of the undertaking and the ascertained necessity for more relief work, I would recommend to the Bombay Government that sanction be given to the immediate commencement of the repairs of the Begum Talao as a relief work.

No. 179.

Nos. 180-1.

Telegram, dated 21st March 1877.

From REVENUE ADDITIONAL SECRETARY, Calcutta, to REVENUE ADDITIONAL SECRETARY, Madras.

Grain re-
serve of Ma-
dras Govern-
ment, dis-
posal of.

Your telegram regarding grain reserve. Have you made the public notification requested in paragraphs 3 and 4 of our letter of the 9th instant, except that relating to the removal of Government grain to places 60 miles from railway. If not, please explain why? With regard to distribution of reserve grain, we request you to inform us as soon as possible what are the places less than 60 miles from the railway where reserve of Government grain are stored; what is the quantity so stored in each such place; and what your reasons for retaining it in a locality which, *prima facie*, ought to be easily reached by private trade. Telegraphic answer to these inquiries and early written reply to our letter of 9th instant are requested. The Government of India also request that all important announcements made, or decisions arrived at, by the Madras Government regarding the famine may be promptly telegraphed to Supreme Government. The public announcement, that the Government would hold the stock of grain at Madras in reserve, was not communicated to us at the time.

No. 180.

No. 181.

No. 313, dated 23rd March 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF MADRAS.

Grain reserve
of Madras
Government.

I have had the honour to receive your telegram of the 17th instant, in answer to my letter, No. 276, of the 9th instant.

2. In reply, I am directed to state that before coming to a final decision on the subject of the 2nd, 3rd, and 4th paragraphs of that letter, his Excellency the Governor-General in Council will await the result of the further reference which was made to the Government of Madras by telegraph yesterday.

3. The proposal in paragraph 5, that the reserve of grain now held by the Madras Government should be gradually sold off in small quantities at fixed intervals, was, I am to explain, intended to relieve the mercantile community from the standing menace which seemed to be involved in the existence of a stock of grain in the hands of the Government, liable to be despatched into the distressed districts, or to be thrown on the market at any time. From such inquiries as the Government of India have been able to make, it appears that at Calcutta there is considerable difference of opinion on the subject; although some of the leading merchants consider that the sales contemplated would tend to confirm the confidence of the mercantile community in our policy of non-interference with private trade, and that if conducted in the manner, and at the intervals proposed, they would not be of sufficient importance to have any serious effect upon prices. As, however, the general opinion of the trade at Madras appears to be adverse to the measure, and as his Excellency the Governor in Council has given a public pledge that the grain shall be retained in reserve to meet future emergencies, the Government of India will not press its suggestion further. I am, however, to add that the reserve should not be moved or utilised in any way without the permission of the Government of India, which, in case of necessity, may be applied for by telegraph, with a full explanation of the necessity of the case.

Not to be
utilised with-
out permis-
sion of Go-
vernment of
India.

No. 181.

No. 16 of 1877.

No. 244.

From GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to
the SECRETARY OF STATE FOR INDIA.

Calcutta, the 23rd March 1877.

We enclose, for your Lordship's information, copies of minutes and memoranda which we have received from Sir Richard Temple during the past week, referring to the following subjects :—

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|--|---|
| 1st. The utilisation of the Negapatam port and route for the supply of grain to Bangalore and the Mysore country. | Reviewing Sir Richard Temple's minutes. Nos. 132. 136. 149. |
| 2nd. The employment of weavers on some light work suitable to their physical condition. | No. 151. |
| 3rd. The expediency of making some concession to the caste-feelings of the people in the arrangements of the relief camps. | No. 152. |
| 4th. The present condition of the districts of Coimbatore and Salem. | Nos. 153-4. |
| 5th. The condition of persons on relief works and receiving gratuitous relief recently inspected by him. | No. 155. |
| 6th. The question of the sufficiency of the reduced rate of wages. | No. 165. |
| 7th. The relief operations in the taluks of Alur and Tádpatri, in the Bellary district. | No. 174. |
| 8th. The need for maintaining a steady and sufficient importation of northern grains into the famine districts of the Madras Presidency. | No. 158. |
| 9th. The causes which led to the enormous influx of persons to the works in the ceded districts during the earlier months of the present famine. | No. 177. |
| 10th. The expediency * of employing European and Native officers and privates of the Madras Army on the relief works. | No. 97. |
| 11th. The relief camps at the Red Hills and Palaveram. | No. 168. |
| 12th. The taluks and zemindaris in the Madras Presidency inspected by Sir Richard Temple between the 14th January and 14th March. | No. 169. |
2. We also submit a letter† from the Resident at Hyderabad, forwarding a report on the present condition of those districts in the Nizam's country which are more or less affected by scarcity, and the measures which have been taken for the relief of distress. † 162-3.
3. None of these papers call for lengthened remarks from us ; but in all of Sir Richard Temple's minutes suggestions are made, which appear to us to merit, and which we have no doubt are receiving the careful attention of the Government of Madras. The question which still causes us the greatest anxiety is that of the transport of grain by railway into the ceded districts both from the north-west and from Madras. Every effort is being made in the Railway Branch of our Public Works Department to overcome the difficulties which at present impede the transport with sufficient rapidity of the supplies which are considered to be necessary ; but at least six heavy goods engines are needed, in addition to those at present available in this country, to meet the requirements of the grain traffic. We have requested your Lordship by telegraph to arrange for this number of engines being sent to Bombay by way of the Suez Canal with as little delay as possible. Grain transport causing anxiety.
4. The facts stated and considerations urged by Sir Richard Temple in his minute of the 18th instant, regarding the causes which led to the enormous influx of persons to the relief works in the ceded districts and in Kurnool in the earlier months of the famine, indicate the urgent necessity of so arranging the works as to render them as little attractive as possible to those who are not in absolute need. Sir Richard Temple shows that whereas in December the number on the relief works in those districts amounted to 950,000, it has now been reduced to 493,000. The relief works were close to the homes of the people ; the work was light and easy ; the wages were more than sufficient to afford a bare subsistence ; all comers were admitted, without any question as to whether they were able to sustain themselves, and the consequence was that thousands and thousands of powerful men, representing what might be called a fine peasantry, whose physical condition was excellent, and who were really in no need of relief, received State wages as relief labourers. This was the state of things in January. The reduction in the numbers which has since taken place is mainly attributable to the relief works having been so re-arranged as to render them more distant from the homes of the workpeople and to augmenting the task. Sir Richard Temple states that "instance after instance

* The original of this minute appears to have miscarried in the post: The copy which reached us on the 22nd instant is a duplicate.

“ has occurred of gangs, some thousands strong, being told that the road on which they were engaged was sufficiently finished, and that they must march on to another road ten miles or even five miles off, and their melting away or never mustering again; or being told that they must do such and such a task, and rejoining that they did not like this, as it would involve so many hours a day, and then ceasing to appear.” Other causes which have contributed to the diminution of numbers are the reduction of the wage and the discharge of persons who seemed able to sustain themselves; but in Sir Richard Temple’s opinion, the main causes were the re-arrangement of the works and the enforcement of heavier tasks. Both these remedies, he considers, should be still further enforced in the three districts above mentioned, and if combined with petty relief works with light tasks for weakly persons, from which able-bodied labourers should be excluded, and by a searching house-to-house visitation systematically arranged, there need be no apprehension of the distress being inadequately dealt with.

* No. 175.
Grain reserve
of Madras
Government,
its disposal.

† No. 179.

‡ No. 180.

5. We enclose a copy of a telegram* which we received on the 18th instant from the Government of Madras with reference to the instructions conveyed and the suggestion offered in our letter of the 9th instant, regarding the stock of grain now in the hands of the Government in that Presidency, to which allusion was made in the 2nd and 3rd paragraphs of our Despatch of the same date. Copies of a telegram† which we have addressed to the Government of Madras, calling for further information on certain points, and of a letter‡ expressing our acquiescence, under the circumstances, in the decision arrived at by the Local Government, not to sell for the present the reserve of grain now in their hands at Madras, are also enclosed. Your Lordship will observe that in suggesting the sale to the highest bidders of the stock of Government grain now at Madras, in moderate specified quantities, at specified intervals, our object was to confirm the confidence of the mercantile community in our policy of non-interference with private trade, and to remove the standing menace to the trade which seemed to be involved in the existence of a stock of grain in the hands of the Government, liable to be despatched into the distressed districts or to be thrown into the market at any time, to the serious derangement of the calculations of private traders. From the inquiries which we have been able to make here, we find that at Calcutta there is considerable difference of opinion on the subject, although some of the leading merchants consider that the sales contemplated would tend to remove the uncertainty and distrust which have been felt regarding the action of the Government, and that if conducted in the manner and at the intervals proposed they would not be of sufficient importance to have any serious effect upon prices. At Madras, however, the preponderance of mercantile opinion appears to be adverse to the measure; and as it appears that his Grace the Governor in Council has given a public pledge that the grain shall be retained in reserve to meet future emergencies, and will not be utilised so long as private trade meets the requirements of the distressed districts, we have not deemed it advisable to press our suggestion further. We have desired, however, that the reserve should not be moved or utilised in any way without the permission of the Government of India, which, in case of necessity, may be applied for by telegraph, with a full explanation of the nature of the necessity.

6. We have much satisfaction in reporting that there has been a good fall of rain in several of the distressed districts, including Bellary, Kurnool, Cuddapah, Nellore, Trichinopoly, and Tinnevely. It has also extended to Mysore. The particulars have not yet reached us.

7. Sir Richard Temple telegraphs as follows on the 21st instant:—

“ I have during past week visited districts of Sholapur and Kaládgi in Bombay Presidency, and inspected in these districts 19,000 relief labourers, most of whom employed on task-work, professionally supervised and measured up. Physical condition generally satisfactory. Gangs under civil officers much diminished in numbers. Efforts to prevent waste or abuse very creditable to local authorities. System of relief strict. Some doubt whether village relief and house to house visitation sufficiently effective. General impression of Bombay management favourable. Comparison between Madras and Bombay Presidencies thus: Principles now the same in both; but in Madras the management more indulgent to people, relief more freely allowed, and expense more liberal. In Bombay the management is more rigid, the system more exact, the economy more complete. In neither Presidency is there enough visitation from village to village to search out individual cases of distress.”

8. There has been a slight decrease in the numbers on the relief works in Madras and an increase in Bombay. In Madras the number according to the latest return was 656,997 against 657,365, the number for the previous week. In Bombay the corresponding numbers were 226,841 and 223,865. The net increase in the two Presidencies was 2,608. There was, however, in Bombay a decrease of 11,947 children under seven

years of age and of women taking care of them, the number having been reduced from 44,150 to 32,203.

In the number of persons charitably relieved there was a large increase, amounting to 23,750 persons in Madras, the number having risen from 58,317 to 82,067. In Bombay the corresponding numbers were 6,135 and 5,566, showing a decrease of 569.

In Mysore the number on the relief works was 36,600, in addition to 30,794 employed by Public Works agency, and 37,361 charitably relieved, making a total of 104,755 against 99,699, the corresponding numbers for last week.

9. It will be seen from the Resident's letter, and from the papers appended to it, the opinion expressed in Sir Richard Temple's minute on the condition of Hyderabad, which was enclosed in our Despatch of the 9th ultimo, that the distress in that State was likely to be less than was at first apprehended, has so far been justified by the event. The condition of the rabi harvest, now in course of being gathered, is generally fairly favourable, and no further extension of the area in which distress has hitherto prevailed is apprehended. The maximum number of persons likely to be on the relief works is estimated at 43,000. The Resident bears testimony to the judgment with which Sir Salar Jung has dealt with the matter.

We have the honour to be, &c.

(Signed)

LYTTON.

A. HOBHOUSE.

E. C. BAYLEY.

A. J. ARBUTHNOT.

J. STRACHEY.

E. B. JOHNSON.

No. 182.

MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, regarding RELIEF Nos. 186. OPERATIONS in the SHOLAPUR DISTRICT, as ascertained by Sir Richard Temple 213. during his visit of the 17th, 18th, and 22nd March 1877.

Camp, Poona District, 23rd March 1877.

Sir Richard Temple met at Sholapur the Revenue Commissioner, Mr. Robertson, the Collector, Mr. Percival, and the Executive Engineer, Major Mathew. In his minute of the 12th January were offered some general statistics regarding the distress in the Sholapur district, and it will suffice to note here that the district comprises an area of 4,496 square miles, with a population of 718,034 persons; that the failure of the crops has been general all over the district; and that the average out-turn of the food-crops was estimated at one anna out of 16 for the whole district.

Relief operations in Sholapur district.

2. In the month of January there were 93,000 persons on the relief works in the Sholapur district, now (20th March) there are only 48,855. Of these about 4,500 (or 600 in each taluk) are on the works under Civil agency, the remainder being employed under the officers of the Public Works Department, by whom task-work is exacted and efficient supervision is exercised. The Collector, Mr. Percival, assigns several causes for the decrease in numbers; thus, he attributes it in part to—

- (a.) The reduction in the rate of wages.
- (b.) The concentration of the people on works at a distance from their homes.
- (c.) The exaction of task-work.
- (d.) The ability of the people to do without relief to an extent not previously believed.
- (e.) The large charity still going on in all the towns and larger villages at the hands of Natives.

3. The rates of wage are 1 anna 10 pies for adult men on the Public Works, and 1 anna 3 pies for adult men on the Civil agency works. If persons or gangs on the Public Works do not perform the full tasks their wages are subject to deduction.

4. Regarding the condition of the people the Collector says that the gangs on the regular Public Works are in decidedly good condition; that the condition of the people on Civil agency is fair at present; but that he is apprehensive about these people, and recommends that the wage rate should be raised to $1\frac{1}{2}$ annas, or else that a Sunday wage should be given. The Commissioner, Mr. Robertson, does not admit that necessity has yet been shown for any increase in the rates. The Collector believes the condition of the people outside the works to be fairly good; he receives weekly diaries from relief officers, who get reports from relief inspectors and visit a great number of villages themselves. No single report of a starvation death has yet reached the Collector. He recently received a report from a single relief circle of 10 villages to the effect that

Relief opera-
tions in Sho-
lapur dis-
trict.

the condition of the people there was much depressed. The Assistant Collector has gone to visit this circle, and his report has not yet come to hand.

5. The charitable relief arrangements are on this wise: a relief house is established at every taluk head-quarters; each taluk is divided into eight or 10 circles of 10 villages each; over each of these circles is a relief inspector on Rs. 12 a month, whose duty is to visit every village in his circle twice a week; in every taluk there is a mamlatdar (Native subdivisional officer) whose full time is given to relief work; and over every taluk is a European or Native Assistant Collector, whose duty is to inspect villages and direct the subordinate agency. A register of paupers has been prepared and is periodically revised for every village; and every pauper who cannot support himself is expected to reside and be relieved at the taluk relief house, save in exceptional cases of infirm people who cannot travel and are relieved by the patels (village headmen) at the cost of the State. The relief houses are not popular with paupers, as they have to reside there. Only about 1,100 persons are now in receipt of charitable relief, besides some 6,000 young children whose parents are on the relief works. A very great deal of relief is being given by private charity; a Native charitable relief committee is doing good work in every considerable town in the district; in Sholapur town itself the committee spend Rs. 4,000 a month on distributing charitable relief to about 2,300 persons daily. The Collector has noticed with satisfaction the extent to which the helpless village poor are cared for by their own people, even in these hard times. Still he anticipates that larger numbers of these poor creatures must sooner or later come upon the Government for charitable relief.

6. Among other testimony given to Sir Richard Temple regarding the condition of the people in the Sholapur district may be mentioned:—

Lieutenant C. J. Dickson, District Superintendent of Police, who, in his last diary from tour, reports that he has visited many villages and found the state of the people to be good.

Lieutenant Christie, R.E., from the Midnapore district of Bengal, who has been employed for one month in the interior of the district. He has seen a great many of the workpeople. Last week he visited the Ashti tank, whereon 7,000 people were employed; and he was moving about among the people for two days. He found the workmen in "capital condition," and he considers them to be "as good coolies as one could see anywhere." Among 7,000 labourers there were of course some few weakly people; but the hospital was almost empty.

Lieutenant Affleck Graves, Assistant Engineer from Agra, has been employed for one month in the interior of the district, and has under him now 43 miles of road on which 3,000 labourers are employed. The wage rate for adult male is 1 anna 9 pies; and the people have throughout been in good condition, better indeed than the gangs recently working under him on the Agra district roads. The children especially seemed to be in good case.

7. Sir Richard Temple inspected a considerable number of relief labourers and of other poor in the Sholapur districts; thus:—

Moteebagh tank near Sholapur.—Four thousand labourers under Public Works agency, doing full task-work, on wages of 1 anna 10 pies a day for adult males; the condition of the gangs, men, women, and children was decidedly good; but it was said that, when this work was opened three weeks ago, many of the labourers were in a much reduced state. They had recovered their condition under the present reduced wages.

Kumbul tank, six miles from Sholapur.—Two hundred persons, all of the poorest classes, under Civil agency, on a wage of 1 anna 3 pie for adult males. These gangs were composed mainly of elderly persons, the able-bodied having been drafted on to the Public Works Department works. Their condition was fairly good, and Sir Richard Temple marked only one woman and one child as apparently suffering from want.

Another small tank, two miles further from Sholapur.—Three hundred labourers of both sexes on the Civil agency wage rate. These gangs, though composed of people from the very lowest classes, were generally in good physical condition, and did not appear to have suffered from the low rate of wages. Sir Richard Temple marked two men who ought to have been on charitable relief, and he marked four persons who were in a somewhat reduced condition of body.

The inhabitants of the village near the aforesaid tank.—All the people of this village (to the number of about 200) turned out for inspection. Sir Richard Temple found the condition of these people to be much the same as the condition of the people on the works, save that they wore better clothes. The only emaciated cripple was a man who, on inquiry, turned out to be a professional beggar whose trade paid better than State relief, for his family consisted of a sturdy, comfortable-looking wife and five well-

conditioned children, besides a sixth child who was said to be away begging in the streets of Sholapur.

Beejapur road near Wurrukbal, ten miles from Sholapur.—Two thousand five hundred labourers under Public Works agency and on a wage rate of 1 anna 10 pies for adults. The general condition of these gangs was very good; several hundreds of the men and women were remarkably fine specimens of the Deccan peasantry, well set up and well nourished. Only a very few cases (one per cent. in all) of persons in an apparently reduced condition were marked by Sir Richard Temple. The condition of the children in these gangs was specially good, save in the case of a very few infants. In some of the cases on this road it seemed doubtful whether the people were not being employed too near to their homes.

8. The Collector cannot say what the total amount of land revenue to be remitted may be. The total of remissions will probably fall short of the first estimate. He is now, with the assistance of the subordinate revenue officials, dividing his district land revenue demand into three categories, viz.,—

(a.) Revenue that should now be collected;

(b.) Revenue that should be suspended and collected in future years, if the harvests are good;

(c.) Revenue that must now be remitted.

9. The Collector fears that cattle must have died in large numbers. During the last two months 30,000 hides are said to have come into the Sholapur market alone. But things are not quite so bad as they were; cattle which were selling in December and January for Rs. 2 now fetch Rs. 8. The people, too, seem to have more hope than they had; they are bringing back some of their cattle, so as to be ready for agricultural work directly the April showers come. Crimes against property have decreased since January last, and there was no perceptible increase in crime after (or in consequence of) the reduction of numbers on the relief works.

No. 183.

MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, of the facts concerning RELIEF OPERATIONS in the KALÁDGI DISTRICT, ascertained by Sir Richard Temple on his visit of the 19th–21st March 1877.

Relief operations in Sholapur district.

Nos. 186. 213.

Camp, Poona District, 23rd March 1877.

On the 18th March Sir Richard Temple started from Sholapur for Beejapur, a central town of the Kaládgi district. He passed through the taluk of Sholapur in the Sholapur district, but on that day no workpeople were on the road. On the right bank of the Bheema he was met by the mamlutdar (Native sub-district officer) of Indee, the most northerly and most severely distressed taluk of Kaládgi. On the confines of the Beejapur taluk he was met by Mr. Molecey, the Executive Engineer, Mr. Silcock, the Assistant Collector, and Mr. Dunsterville, of the Survey Department, who is now employed upon relief work. Mr. Hogg, the Collector, had not received intimation of Sir Richard Temple's visit in time enough to enable him to attend.

Relief operations in Kaládgi district.

2. The general statistics of the Kaládgi district were given in Sir Richard Temple's minute of the 12th January, but it may be repeated here that the Kaládgi district contains 5,695 square miles and a population of 816,037 persons; that the rainfall over the whole district was short and the crops failed utterly in the north of the district; and that the failure was very great in the other taluks, so much so that the average out-turn of the season's crop is not estimated at above one anna out of 16. But Kaládgi is better off than the districts of Sholapur and Poona, in so far that its soil is better and its people are believed to possess greater resources. It is noteworthy that there was no increase of crime against property in the Kaládgi district when the numbers on relief works fell during February. There is now not more crime in Kaládgi than in ordinary years. In the months of November and December, on the other hand, crimes of violence and against property were very rife.

3. The number of people on relief works in the Kaládgi district was 54,000 during the first week of February, and it stands now (third week of March) at Rs. 27,000. Of this last total Rs. 22,500 are employed on works under the Public Works Department, and Rs. 4,500 are on works under the Civil officers. The great decrease in the number of people on relief works has been caused mainly by a strict adherence to the practice whereby gangs of labourers are shifted from one work to another and are employed at a distance from their homes. The enforcement of a moderate task-work has had some effect in keeping off the workpeople who could support themselves at home. The staff

Relief operations in Kaladgi district.

of engineering subordinates is quite sufficient to control and to enforce work from the comparatively reduced numbers now on the relief works. On the Civil agency works are taken infirm or weakly people, who could not do a good day's work; people on these works who grow strong are transferred to the regular engineering works.

4. The Executive Engineer, the Assistant Collector, and the mamlutdar were all agreed that, so far as their inspections and inquiries went, the people who had left the works were supporting themselves in one way or another at their homes. They did not believe that any people were dying of hunger away in the villages. The distressed taluks have not been parcelled off into circles, as has been done in Sholapur, but the mamlutdars are relieved of ordinary duties and are employed on relief work alone. They and the Assistant Collectors visit the villages and examine the lists, which every village headman (patel) has to keep, of persons requiring relief. These officers have therefore much though not such full means as in Sholapur of knowing the condition of the village people.

5. The wages paid on the Kaladgi public works are 2 annas per diem for an adult male; because the price of food (jowaree) keeps dearer than 9 seers per rupee. The Executive Engineer, Mr. Molecey, thinks that his wages suffice for the people who receive them. He regards the condition of his gangs to be various, though on the whole good. He thinks that the results of the shifting people to roads away from their homes must be carefully watched, as their reluctance to go far from home sometimes makes the people drift into danger. On the Civil agency works the maximum wage is $1\frac{1}{2}$ annas for an adult male. The Executive Engineer and Mr. Silcock consider that these wages are sufficient, as the people appear to keep in sufficiently good condition. But it was understood that the Collector (Mr. Hogg) and some other of the Civil officers regarded the Civil agency wage as too low. No wages are paid for, and no work is done on Sunday. On both classes of works a subsistence allowance of 3 pie per diem is made to those children of persons on the works who may be too young to do any labour for themselves.

6. Sir Richard Temple inspected at Beejapur 1,120 labourers on the Executive Engineer's works, besides about 800 new applicants for work who had presented themselves during the last three or four days. These people are employed on a road outside Beejapur, and they for the most part sleep in temporary huts, which they have provided for themselves close to the road. There was a certain small number of sturdy, well-to-do men and women among the Beejapur gangs, who could probably have done without State charity for a time at any rate. Out of the 1,120 labourers Sir Richard Temple marked 11 who were in a very reduced physical condition, and he noticed 12 such persons among the 800 applicants. The local officers made inquiries into each of these cases.

7. Out of the town of Beejapur and from the villages round 2,300 persons of the poorer classes were collected for inspection, in order that Sir Richard Temple might form an idea of the condition of the poorer classes that were in receipt of no relief at all. These people were called together suddenly; they were to all appearance poorly off, and they were probably fair representatives of the classes regarding whose condition anxiety might be felt. Out of the total number (2,300) Sir Richard Temple marked 48 persons whose physical condition was apparently much reduced by hunger; some of these cases would, in all probability, be soon in a dangerous condition. These people are now being looked after by the Civil officers. Sir Richard Temple at the same time inspected the people (about 120) in receipt of charitable relief at Beejapur; all these poor creatures were decidedly fit recipients for this kind of charity.

8. At Wortee, 20 miles outside Beejapur, Sir Richard Temple inspected, in company with the Executive Engineer, the Assistant Collector, and the mamlutdar, 4,800 labourers who are now at work on the road from Wortee to Indee, and also 250 persons of the poorest classes from Wortee and the surrounding villages, who were receiving no relief at all. The Wortee gangs were generally in poorer condition than those inspected at Beejapur; and Mr. Molecey explained that they were the very poorest gangs in his district. Out of these gangs Sir Richard Temple marked 133 persons whose condition was low. A very few infants were in an emaciated state, either from illness or from failure of their natural supply of food; but with these exceptions the children of the Wortee gangs were well nourished and comfortable. Still the labourers in these gangs were almost all of them suitable persons to be upon the relief works. The representative poor who came from Wortee and the adjacent villages for inspection were clearly in very poor circumstances, and among them Sir Richard Temple marked three cases which were in a very reduced physical condition, induced apparently by want of food.

9. On the whole it appeared to Sir Richard Temple that the relief works were well managed and were restricted to persons in real need of State aid. The test of shifting labourers and employing them far from their homes had been properly and successfully applied. It appeared, however, to Sir Richard Temple that the system of village visitation and village relief is not sufficiently carried out or adequately supervised. Among the representative bodies of villagers which Sir Richard Temple examined, from one to two per cent. appeared to be in a really reduced condition, and it seemed that this condition was due to hunger. Many of such people, if not searched out and relieved, must die during the next two months. If the same per-centage of bad cases exists in the villages all over the most distressed parts of Kaládgi, then no time should be lost in searching them out and relieving them. Raising the wage rate would not meet the necessities of the case; real and active village visitation under energetic supervision is required.

Relief operations in Kaládgi district.

10. The Assistant Collector and the Executive Engineer appear to think that one or more additional relief works would be required in the northern taluks of Kaládgi now that the road works, which could be usefully undertaken, were nearly completed. Regarding one of these works, the Begumtalo, Sir Richard Temple has recorded a separate minute. Mr. Silcock recommended strongly that four tanks in the Indee taluk, for which the Irrigation Department has plans and estimates ready, should be taken in hand and repaired. Mr. Burke, the Irrigation Engineer, informed Sir Richard Temple that he could begin these works at once; he considers them to be more useful than a continuance of road works, though the tanks are not such as in ordinary years would be considered remunerative irrigation works. Some colour was given to Mr. Silcock's opinion that one or more additional works were required for the Indee taluk, by a representation made to Sir Richard Temple by the patels, koolkarnees (village officers), and ryots of the villages of Dhoolkheif, Chanégaon, and Simnala, on the northern border of the Indee taluk. 450 persons of these and certain neighbouring villages were inspected by Sir Richard Temple; it was stated by the people, and affirmed by the village officials, that from 100 to 200 of these people had worked on the Sholapur road till work there was closed, and that they had afterwards gone to the Wortee road (distance 20 miles) for work, but they had for some reason or other been refused admission to the works. Among the people who said they had gone to find work at Wortee were four or five persons whose physical condition was low; but, on the whole, the 450 villagers inspected appeared to be in a fairly good physical condition.

11. Sir Richard Temple saw at Dhoolkheif 15 tons of Government grain (jowaree), which had been brought at the beginning of the scarcity when grain importations had hardly begun and supplies for the labourers seemed likely to run short. Other small parcels of Government grain are stored in different parts of the Kaládgi district. These stores have not yet been used, as the local markets sufficiently supply all wants. But as some of the grain is being destroyed by insects, and the supply in the local markets appears quite secure, the Bombay Government has ordered these stores to be sold by auction to the local merchants.

No. 184.

MEMORANDUM by MR. BERNARD, Secretary to Sir Richard Temple, regarding RELIEF OPERATIONS in the AHMEDNAGAR DISTRICT.

Nos. 186.
213.

Camp, Poona District, 23rd March 1877.

Sir Richard Temple was not able to visit the interior of the Ahmednagar district; but he met Mr. Jacomb, the Collector, in company with Mr. Robertson, the Commissioner, at Dhond, and he inspected a gang of 4,000 labourers on the Dhond and Munmar Railway relief work near the Bheema River, just within the confines of the Ahmednagar district. Mr. Izatt, C.E., who is in charge of the works, with Mr. Vacher, the Executive Engineer, was present.

Relief operations in Ahmednagar district.

2. The gangs of Ahmednagar labourers on the railway works were in very good condition. They are doing task-work on a wage rate of 1 anna 8 pie for adult men. At the outset they did not perform their full task; but now the engineers under Mr. Izatt get full work out of the people, who accordingly receive their full wage. Mr. Izatt reports that the disbursements on account of charitable relief (3 pie a head per diem) to young children amount to 10 per cent. of his whole expenditure for wages.

Mr. Jacomb's account of affairs in his district was briefly as follows:—

(a.) The north of the district in the Godavery valley has had fairly good crops. The bad parts are in the south, the Srigunda and Kurjut taluks, with parts of Nuggur and Parner. On the relief works there are now 11,800 labourers, as

Relief operations in Ahmednagar district.

against 26,000 in the beginning of February. Of this total only 900 are on the Civil agency works, where they receive a wage of 1 anna 1 pie for adult men. The Collector thinks this rate is too low, but he cannot say that he has found the people actually suffering in consequence of these low rates. Some of the poor of the district are wandering from their homes, but none are starving. No cases of starvation have ever been reported.

- (b.) In the worst taluks and in parts of others the villages are divided into circles, with an Inspector over each circle. These Inspectors furnish diaries of their work and of what they see. Over them are the mamlatdars (Native subdivisional officers) and the Assistant Collectors. The patels do really look up and relieve the village poor; save, perhaps, in the case of the Mhars (outcasts), regarding whom men of higher caste are very reluctant to exert themselves.
- (c.) The supply of food in the local markets is everywhere ample, and will continue to be so.
- (d.) In the Kurjut taluk only is there any real difficulty about water-supply. Wells are being deepened there, and also in other parts of the district.
- (e.) There has not as yet been any very great mortality among the cattle. The great majority of the animals in the worst taluks were driven away to distant pastures. Possibly one third of the emigrant cattle may die; but nothing certain is yet known.
- (f.) The Collector cannot say for certain, but he expects that out of the 12 lakhs of revenue demand from his district he may be able—
 - To collect 6 lakhs.
 - To suspend 4 lakhs.
 - To remit 2 lakhs.

In January last it had been estimated that 6 lakhs might have to be remitted.

No. 185.

Nos. 186.
213.

MEMORANDUM by Mr. BERNARD, Secretary to Sir Richard Temple, regarding RELIEF OPERATIONS in the POONA DISTRICT, as ascertained at Sir Richard Temple's visit of the 22nd–24th March 1877.

Camp, Poona District, 24th March 1877.

Relief operations in Poona districts.

Sir Richard Temple met in the western or more distressed tracts of the Poona district—

Mr. Norman, the Collector.

„ Keyser, the Assistant Collector.

„ Fletcher,

„ Holland,

„ Symonds,

} relief officers.

Major-General Kennedy, R.E., Secretary to the Bombay Government, in charge of the Famine Department, who was good enough to come to meet Sir Richard Temple.

Colonel Merriman, R.E., Chief Engineer of the Irrigation Department.

Mr. Clarke, Executive Engineer.

„ Joyner, Executive Engineer.

„ Toogood, Assistant Engineer.

The distressed area of the Poona district comprises the whole of the Bheemthari and Indapur taluks, with parts of the Haweyli (head-quarters) and Poorandhar taluks. These tracts contain a population of about 320,000 persons, and the failure there has been so great that the season's out-turn is estimated at only 1 anna out of a 16-annas (full) crop.

2. In the month of January there were 54,000 people on relief works in the Poona district; now (20th March) there are only 42,000, of whom about 38,000 are employed on works under Public Works officers, who exact full task-work and exercise very thorough supervision over the workpeople. The full wage of an adult man on the works under Engineering officers is 1 anna 10 pies per diem; but the workpeople incur deduction if they do not perform the full task. On all the great works which Sir Richard Temple visited in the Poona district, most of the labourers had forfeited from one fourth to one sixth of their wages during the earlier weeks that task-work was imposed. But now all the gangs, with but very few exceptions, do their full task and get their full wage. On the works under Civil agency the wage rate is 1 anna 3 pie.

3. The peculiar feature of the Poona district relief is that the relief labourers are concentrated on a very few large and useful works, mainly under the Irrigation Department,

viz., the Moota Canal, the Nira Canal, and the great reservoirs at Mahtoba and Sirsophul. Some gangs, gradually increasing in numbers, are employed on the southerly section of the Dhond and Munmar Railway. On every one of these works the labourers come, for the most part, from a distance, and they live in temporary huts provided by themselves close to the works. Various accounts are given of the condition of the thousands who have left the relief works since January. And the outcome of all these accounts is that some of the people have emigrated to the Nizam's country or to the hill pastures with their cattle; some have gone to Bombay to get work; and some few are in their villages preparing for the coming agricultural season. All the inspecting officers who visit the interior are, however, agreed that comparatively few of the ordinary residents are left in the villages of the Bheemthari and Indapur taluks.

Relief operations in Poona district.

4. Sir Richard Temple was able to inspect a considerable number of gangs of relief labourers and of other poor in the Poona district. He visited,—

The Dhond and Munmar Railway Works, whereon are 2,800 labourers of the Poona district. These gangs were among the poorest Sir Richard Temple has seen in the Bombay Presidency, and some proportion of the men were below par. Their wages were 1 anna 9 pies per diem for adult men who did full task. It was explained that the men were in poor condition when they came to the work; during the first 10 days no deduction was made for short work; then deductions began, and the men for about 10 days earned little more than half the full wage; during the last week they have been doing three quarters of full work; and the engineers have, at the Commissioner's request, decided that fines for light task shall not reduce the daily wage below the subsistence rate allowed on Civil agency works. The reduced people in these gangs, who are more numerous than in any other gangs inspected by Sir Richard Temple, are now being looked after by the officers in charge.

The Boreebayal Tank, on which were 60 labourers under Civil agency. Most of these people were old and infirm; all were very poor; still Sir Richard Temple marked only four persons who seemed reduced by want; 40 children were here in receipt of the 3 pie charitable allowance, and were all in excellent case. The able-bodied people had been drafted off to the Public Works Department works, and there was nothing in the condition of the labourers left to warrant an apprehension that the Civil works wage was insufficient to maintain the people's strength.

The Sirsophul Tank, whereon were 3,200 labourers, out of whom Sir Richard Temple marked 11 persons who seemed to be in a reduced physical condition. The remainder were in good case, the younger men and women looking stout and well. All were on the Public Works Department wage, and lived in temporary huts close to the work. Some few of the people looked as if they could have managed for themselves without State aid. There were 1,160 children and 33 infirm paupers belonging to the workpeople, who were all in receipt of charitable relief.

The Patas Tank, 1,300 labourers on Public Works Department rates, besides 51 employed under Civil agency. The condition of these gangs was on the whole good; and the people appeared to be well nourished. Fifty-three persons belonging to Patas town, who were on charitable relief, were inspected and were seen to be fit recipients for such charity.

Patas Town Poor who were not on Relief.—Two hundred and fifty of the poor of Patas, who were receiving no kind of relief, were inspected. The people all looked poor, but Sir Richard Temple marked only two persons who were reduced in physical condition, and ought to be taken on charitable relief. One of the two, a Mhar by caste, entirely declined to accept Government charity.

Moota Canal Works.—Ten thousand and two hundred people are now employed along about 22 miles of this canal, which was the first large work begun in this part of the Deccan. At one time as many as 19,000 people were employed on the canal. The exaction of task work which has been enforced rigorously since January caused the reduction in the numbers. From the beginning the workpeople have lived in temporary shelter close to the works, and have been shifted 8 or 10 miles down the canal as the work went on. On this canal Sir Richard Temple inspected 4,764 workpeople, besides 1,370 young children and 137 infirm old people, making 1,507 in all who were receiving charitable relief on the works. The condition of these people was decidedly good. Sir Richard Temple marked only six persons who were apparently in a reduced physical condition. The children were in particularly good case. The wage on these works for an adult man who does full work is 1 anna 9 pies. During February the deductions on account of short work came to 9 per cent. on the total wages; but during the month of March 90 per cent. of the

Relief opera-
tions in
Poona dis-
trict.

gangs have earned full wages. Mr. Joyner, the Executive Engineer in charge of this work, makes careful inquiry into the case of each gang that comes under deduction, so as to prevent the possibility of any gangs losing strength by reason of insufficient food. When task-work was first exacted to the full extent in January last, some of the gangs fell for a time below par; but remedies were applied, and all are now in excellent condition.

Mahtoba Tank, also an Irrigation Department work, on which Sir Richard Temple saw 5,400 workpeople, besides 1,600 children on charitable allowance. The physique of these gangs was not quite so good as that of the people on the Moota Canal, where relief works were opened early in the season. Still the condition of the Mahtoba gangs was good; the children were plump and happy; less than $\frac{1}{4}$ per cent. of the people were marked by Sir Richard Temple as in a reduced condition of body. The gangs were for the most part doing full task and getting full wage.

5. The supply of grain is ample in all markets of the Poona district. A village dealer whom Sir Richard Temple saw close to the Motee Canal was selling grain (jowaree) to the labourers at $10\frac{1}{2}$ seers (21 lbs.) per rupee. No one appears to have apprehensions respecting the sufficiency of the supply of grain, which private trade will maintain in all parts of the Poona district.

6. The numbers on charitable relief are :—

In villages -	-	-	-	-	-	-	3,042
On works, chiefly children -	-	-	-	-	-	-	12,649
Total							15,691

The Poona system of giving charitable relief differs from that practised elsewhere. No regular relief houses are established whence cooked food is distributed. But the patels (village headmen) are authorised to give paupers, who are entered on the village lists, an order on the village corn-dealer for half a seer (1 lb.) of grain per diem plus 3 pie in cash per week. The village dealer issues this relief and sends his bill to the nearest relief officer. The European Civil officers who inspect the villages, the engineers who are constantly among the people, and the Native officials from the mamlatdar (subdivisional magistrate) downwards are all agreed that the relief so given suffices for the needs of the village poor, and that no people are starving, or are likely to starve, at their homes in the villages. Sir Richard Temple's inspections quite bear out these assertions of the local officers. A good deal of private charity is being dispensed in Poona city and other towns in the interior. And wherever a municipality exists the municipal committee discreetly administer charitable relief within their borders. It is creditable to the patels and to the supervising officers, as well as to the people themselves, that the State charity administered through the village officers is not abused. It seems that the people are very loth to receive charitable relief if they can help it. And a case was related of a Poona villager in receipt of charitable relief, whose son on his return home at once and of his own motion repaid to Government the full amount spent on the relief of his mother during his absence.

7. The water-supply in some villages is short, but it is nowhere absolutely wanting. In or near the larger villages where deficiency occurs the relief officers are deepening the wells. This is specially needed for the outcast tribes (Mahas, &c.), who are not allowed to drink from the ordinary village well.

8. It seems to be generally admitted that a great number of cattle have died, and that the greater part of the residue have emigrated, some of which will die in distant pastures. The mamlatdar of Bhimthari, an officer of experience, who is much trusted by the district officers, reports that out of 72,000 head of cattle in his taluk, 44,000 have emigrated, 20,000 have died, and 7,000 are left alive. He says, however, that the cattle left and those which may return will suffice to distribute supplies of food into the interior of the districts, wherever it may be wanted.

9. The Collector of Poona has, as yet, granted no remissions of land revenue. He will continue collecting all he can; he has already collected in several taluks more than he had expected in January last; and he will suspend the demand instead of remitting in cases where eventual collection of revenue may be impossible. But in Indapur and Bhimthari much remission will have to be given; and perhaps in the end, if next season is good, the Poona remissions of land revenue may reach $3\frac{1}{2}$ lakhs as compared with 6 lakhs named in the January estimate of remissions.

Camp, Poona district, 24th March 1877.

In forwarding the accompanying memoranda of facts ascertained during my present visit to the districts of Sholapur, Kaládgi, and Poona, in the Bombay Presidency (which are the three most distressed districts), I have to record some general observations.

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tricts.

2. It will be in the recollection of the Government of India that on my first visit to the Deccan districts of the Bombay Presidency on the 10th and 11th of January last, I submitted several recommendations, the principal of which was to the effect that the petty village works close to the homes of the people, with easy or nominal work, on which the great majority of relief labourers were then employed, should be generally discouraged and closed wherever possible; and that the relief labourers should be concentrated as much as might be practicable on larger public works, generally at some distance from their homes, with rigid tasks under professional supervision. This principle was thought likely to prove acceptable to the Local Government, which had evinced a tendency to proceed in that direction. It has since been declared publicly to be in accordance with these views. It has certainly been acted up to during the two months and upwards which have elapsed since the above-mentioned dates with a rigour and decision which leave little to be desired, and with a result upon which, after allowance for any slight drawbacks that may be found, the Government of Bombay may be heartily congratulated.

3. On the 12th January I found 331,447 relief labourers in all, of whom 136,629 were on petty village works and 194,818 on professionally supervised public works. On the 20th March there are 209,000 relief labourers in all, of whom 34,000 only are on village works, while 175,000 are on the larger public works. In other words, whereas a moderate majority were on public works and a large proportion on village works, now the vast majority are on public works, and only an insignificant minority on village works. Again, on the 1st January, I found an universal expectation that the then large number would increase by 80 per cent. before the end of March. I find on the 20th March that the January number instead of increasing has actually decreased by 64 per cent.

4. Although the tendency of our measures has been to transfer large numbers to the public works, still even on these works there has actually been a decrease. This has arisen from the enforcement of the task-work previously ordered. Many persons came to work on task so long as they found it easy, but absented themselves when they found it becoming harder. On the Civil works the manner in which the reduction of numbers occurred was in this wise. The Public Works Department (including its general branch and its special irrigation branch) has been strongly organised with a staff of officers and of trained subordinates in the distressed districts. Professional preparations for public works on a sufficiently large scale, consisting partly of main roads, but chiefly of irrigation reservoirs (tanks) were got ready. To these all applicants (save and except those who appeared to be able to sustain themselves, for a time at least, without Government aid) were admitted. To these also all the labourers who had previously been on village works were drafted, except those who from age, infirmity, or other good cause were unable to go. The able-bodied were informed that they could no longer be employed on the village works, but that employment was available for them on the larger public works; to every person some such work at a reasonable distance was indicated; he was also informed, however, that in event of his refusing this offer he would not be otherwise employed. Very many did in fact refuse, and by so doing virtually discharged themselves from Government relief, thereby affording proof that they were not in real distress and could afford to stay away. Many, however, accepted the offer and are still serving on the public works, proving by their industry and discipline that they really need the support thus obtained.

5. The number who discharged themselves from Government relief in the manner above described were about 102,000.* They did, indeed, at first show signs of some method and system in their proceedings. They liked the village works with a lax system from which they had been discharged. They dis-

*i.e., difference between 136,000 on 12th January and 34,000 on 12th March as above stated.

liked the public works with a strict system to which it was proposed to transfer them. They imagined that by throwing themselves suddenly out of employ, they virtually offered a passive resistance to the orders of Government. Many of them endured more or less of inconvenience and privation in furtherance of a plan whereby they hoped ultimately to regain their position on the easy going village works. For so favourable an object they deemed that some suffering might be borne. They counted somewhat on

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tricts.

exciting the compassion of the authorities, and still more on arousing fears lest some accidents to human life should occur. They wandered about in bands and crowds seeking for sympathy. They probably did meet with sympathy, indirectly at least, in various quarters. They certainly had leaders both from among their own body and from among the employés, whose vocation had ceased from the contraction or cessation of the village works. Moreover, the village headmen (patels) are, as a class, much opposed to any system of relief works which takes the people away from their homes. This feeling may be natural on their part, but it cannot receive attention when it militates against so important a principle as the application of a definite test to a relief system in time of famine.

6. The Local Government, however, did not yield, though it did report the matter to the Government of India, apparently with a view to strengthening the position by eliciting further authoritative declarations. The Government of India, on two occasions, declared in effect that undue concessions must not be made to combinations of workpeople formed with sinister or self-interested objects; and that although Government was bound to do its utmost to save people from death by starvation, it could not always undertake to save them from death owing to their own obstinacy or misconduct. These views have doubtless helped to guide the thoughts of the people and to subdue any unreasonable hopes which may have been engendered.

7. Of those who thus deserted the relief works some returned to labour when they found resistance unavailing. But many after wandering about for a short time settled quietly in their own villages, where they still are (as I have myself seen them in several places) in a condition which, if not good, is yet not reduced. Of these it is thought that many must ere long be constrained to apply for relief.

8. On the other hand, while severity is deserved by those who try to resist the just efforts for reform and economy in the administration of relief, there are many poor ignorant persons misled by designing leaders. No exertion is spared to induce these misguided persons to accept the reasonable sort of relief which they are believed to need. To the village works only those are admitted who cannot be expected to perform the tasks set on the larger works. It was thought that these works would be more largely attended than they are. The authorities are ready to receive many more if they come, either on existing works, or upon other works which could be immediately opened. These works being of the simplest character can always be opened without any preparation. The gangs which I have inspected are exactly those whom we might expect to find, that is, they are people evidently needing assistance, strong enough to do light work near home, but not strong enough to perform the tasks of the public works.

9. For the larger works, as already stated, preparation is always needed. And this preparation has been made in case there should be any accession or influx of numbers as the season advances. After consulting the Public Works authorities I find that the works now open can accommodate 75,000 additional persons at the shortest notice. Here again, however, the rolls of the workmen do not fill as fast as was expected. Evidently the comparatively strictness of system is acting as a deterrent to keep away all save those who are truly in want.

10. Nothing can be more suitable than the character of the gangs on these works, whom I have carefully inspected in various places of these districts, numbering in all about 40,000 persons. By a suitable character I mean this, that the men and women belong to the labouring classes who are cast out of employ by dearth of employment, in consequence of the scarcity, and who really need assistance; they are able-bodied and fully equal to the hard task-work they perform; their physical condition is generally good, often it is very good, indicative of a fine peasantry which any Government may be proud to reckon among its subjects. There are some few exceptions indeed, but in almost every instance there is some satisfactory explanation as, for instance, a man is very thin, but then, though able to labour, he is suffering from some local disease, and he prefers for sake of keeping company with his relatives to be on this work rather than go to the easier village work, and so on.

11. Even to these larger works there are attached sets of weakly persons, and very young children, relatives of the able-bodied labourers, from whom they cannot well be separated. These sets receive special relief according to circumstances.

12. I have inspected many sets of persons receiving gratuitous relief from Government. These are truly miserable persons, and fit recipients of charity.

13. The same cannot always be said of the recipients of private charity in these districts, who are often persons hardly needing this form of relief. It were much to be desired that the charitable donors would consent that their charity should be administered on the same rules as Government charity.

14. The wage of 2* annas a day for an adult male (the wage of females being graduated accordingly) allowed on the public works is certainly sufficient; its sufficiency being attested by the fine physique of the majority of the labourers. Certainly, the task (slightly less than the rate for professional labourers in ordinary years) is not too much for these gangs. For some of the finest sets of these men, it is probably not quite hard enough. The wage allowed on the petty village works, equal to 1 lb. of grain a day plus $\frac{1}{2}$ anna for adult male (the wage of females being graduated accordingly, which is at least 25 per cent. less than the wage on the public works, is probably sufficient, as is shown by the fact that the labourers are looking much as they look in ordinary years. There are, I know, opinions to the contrary, but these are based on general considerations and not upon the one real ground, namely, the actual condition of the labourers. The children of all ages, even the tenderest, of the relief labourers are receiving some allowance.

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tricts.

15. On the whole I feel sure that in the Deccan districts of Bombay no abuse of State charity is allowed; no appreciable amount of Government money is wasted; no demoralisation of the rural classes is going on; on the contrary they are being taught the hard but salutary lesson of self-help in time of danger.

16. With this rigidity of system, and this careful restriction of relief, there must be some anxiety lest individual cases of unrelieved distress should occur and escape observation. So far as my inspection of the poorest classes not on relief has gone, it is to be inferred that they are generally in tolerable condition. Occasionally, though very rarely, I have found instances of persons whose appearance would ensure to them relief immediately on their asking for it. No doubt there is much scope for incessant vigilance. I drew attention to this on the 12th January. Subsequently when representing the same thing to the Madras Government, I sent a copy of that representation to the Government of Bombay, who in reply acknowledged the correctness of the principle and expressed a belief that it had been already carried out. And certainly I find that in the Bombay Deccan, so far as orders go, such vigilance ought to be secured. All village headmen have been warned of their duty in this matter; they frequently do give temporary relief on their own responsibility pending orders of relief officers. Lists have been made out in every village of persons likely to come within this category. European officers are posted in each one of the many subdivisions (talukas) of the distressed districts; and they, together with their Native subordinates, are constantly patrolling the villages and seeing whether the village headmen really do bring forward every deserving case or not. In every subdivision (taluka) of every distressed district there is a relief centre for the reception of these cases. The number on charitable relief is large indeed; but looking to the circumstances of the country, I should be glad to see it larger. It is, however, remarkable that many of the destitute poor are reluctant to resort to the poor-house from a feeling of self-respect which is creditable to them. Here and there, however, I have discovered persons who ought apparently to have come under the operations of these rules; and I think that the local officers cannot be too often reminded of these excellent orders.

17. I have not received any trustworthy evidence whatever that any death from starvation occurs or is in danger of occurring in these districts. But I have received much excellent evidence to the effect that nobody is dying or likely to die of this cause. Statements of an opposite description are sometimes made, but they are merely general in their terms, and are manifestly advanced in support of the view that easier terms of relief should be offered to the people. I am unable, however, to discover upon what foundation any statements that the people are starving can possibly rest. If any instance has happened within the last two months it must be very exceptional. If any instance happens now, it must be owing to some extraordinary conduct on the part of the person concerned, certainly not to any want of means of relief at hand.

18. The number of relief labourers having fallen and continued comparatively so low, the question whether it will greatly rise again is much canvassed locally. If it should rise, then the authorities are ready. I am more concerned to verify this than to debate a matter around which much uncertainty hangs, but which will, by the event, soon be placed beyond doubt. Doubtless the liberal scale, as it is now thought the too liberal scale, on which relief was at the outset administered had the effect of putting money into the pockets of the people on which they are now living. To some extent, but to a slight extent only, this may account for the decrease in numbers. The people are now

* NOTE.—This is the wage so long as grain¹ is not cheaper than 18 lbs. per rupee or dearer than 16 lbs. per rupee; when the price of food ranges beyond these limits, the wage is altered according to a sliding scale, so as to give the value of 1 lb. grain and one anna in cash to each adult male labourer who does full work.

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tricts.

seen to possess some self-sustaining power which is difficult to be gauged beforehand, but which proves to be greater than was at first supposed. The peasantry of these Deccan districts may be poor (as is sometimes affirmed), but they apparently can for the most part support themselves for one year notwithstanding the loss of their crops. They may have fallen into indebtedness, but still they have credit enough to obtain advances of grain from the village dealers, or others who hold stocks of grain. The grain markets continue to be very well supplied. And the price of food still ranges at 20 lbs. for the rupee, which is cheaper decidedly than a famine price.

19. As the case stands at this moment there are in the Bombay Presidency—

	Persons.
On works - - - - -	209,000
On charitable relief - - - - -	42,000
Total - - - - -	251,000

20. The fate of the cattle in all this drought is sadly uncertain. That numbers have died or will die is certain; these are probably the inferior animals. The best have been sent to the pasturage grounds of the Western Ghât mountains. We do not know exactly how they are faring there, not very well in all probability, as even those uplands have but meagre pasture in a year like this.

21. If the numbers of relief shall not materially increase beyond the present total, then there will be a considerable reduction, even below the reduced estimate of expenditure recently furnished for the Imperial budget.

22. During my first visit I drew attention to the importance of using all fair means to collect the land revenue of the current year in all the distressed districts, so far as the people could pay without undue pressure. The revenue authorities seem to have recently made and to be still making successful efforts in this direction. The loss of land revenue by reason of this famine is not thought likely to exceed 54 lakhs of rupees, and may even be less than that. It will be in the recollection of the Government of India that in the beginning of January, when the loss of land revenue was estimated at 50 lakhs, I strongly represented the expediency of not promising remission, so long as any hope of recovering the revenue should remain. Though nothing specifically was settled at the moment, the representation and the consequent agitation of the subject has evidently been of service fiscally. Another cause, no doubt, is the general improvement of the situation.

23. If these favourable anticipations shall be in any degree realised, then the famine of 1877 in the Bombay Presidency will not be so financially burdensome as was once feared. But they depend (it must always be remembered) upon an early and propitious rainfall during the coming summer. If that unhappily were to be withheld, then a fresh conjunction of adverse forces would arise.

No. 187.

No. 213.

LXXXV.—MINUTE by SIR RICHARD TEMPLE, dated Camp Poona District, the
24th March 1877.

Relief la-
bourers and
others in-
spected by
Sir Richard
Temple.

I desire to record a brief mention of the several gangs of relief labourers and other poor people whom I have inspected during my present tour in the Sholapur, Kaladgi, and Poona districts, and in one corner of the Ahmednagar district. I note at the same time the general impression I received of the physical condition of each set of persons whom I inspected.

2. The gangs were as follows :—

SHOLAPUR DISTRICT.

<i>Moti Bagh tank</i> - - - - -	4,000 labourers under Public Works Agency; condition of gangs, men, women, and children, decidedly good.
<i>Kambal tank</i> , 6 miles from Sholapur	200 labourers under Civil agency; condition of all fairly good.
<i>Second small tank</i> , 8 miles from } Sholapur - - - - - }	300 labourers under Civil agency; condition tolerably good.
<i>Poor of village near above-mentioned tank.</i>	200 persons; middling condition.
<i>Wurukbal road</i> , 10 miles from Sho- } lapur - - - - - }	2,500 labourers under Public Works agency; remarkably good condition.

KALADGI DISTRICT.

<i>Beejapore road</i>	-	-	1,120 labourers under Public Works agency ; good condition.
The paupers of Beejapore town and neighbouring villages	-	-	800 new applicants for work ; good condition. 2,300 persons not receiving any relief ; several of these people were much reduced, rest very poorly circumstanced.
<i>Inmates of Beejapore relief house</i>	-	-	120 persons ; infirm and old, but now fairly well nourished.
<i>Wortee road</i>	-	-	4,800 persons ; about 2 per cent. of them were in reduced condition, 15 per cent. were indifferent, rest were middling.
<i>Village poor of Wortee</i>	-	-	250 persons ; not reduced by want, condition middling.
<i>Village poor of Dholheir and other villages on the Bheema</i>	-	-	450 persons ; a very few in indifferent condition ; rest fairly good.

Relief labourers and others inspected by Sir Richard Temple.

AHMEDNAGAR DISTRICT.

<i>Dhond and Munmar Railway</i>	-	-	4,000 persons ; all of whom were in good condition.
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POONA DISTRICT.

<i>Dhond and Munmar Railway</i>	-	-	2,800 persons ; most only middling, and about one-fourth in indifferent condition.
<i>Boreebayal tank</i>	-	-	60 persons ; under Civil agency ; middling condition.
<i>Sirsophal tank</i>	-	-	3,200 labourers under Public Works Department agency ; good condition.
<i>Patas tank</i>	-	-	1,300 labourers under Public Works Department agency. 51 labourers under Civil agency ; all of them in good condition. 53 on charitable relief ; condition middling. 250 paupers of the town ; condition good and middling.
<i>Moota Canal work</i>	-	-	4,764 labourers under Public Works Department agency ; good condition.
<i>Mahtoba tank</i>	-	-	5,400 labourers under Public Works Department agency ; good condition.
<i>Khairgaon village poor</i>	-	-	200 persons ; fair condition ; only two marked as reduced by want.

Total	-	-	39,118
Add the children getting three pie a day charitable allowance on the works, all of whose condition is good, save a very few infants at the breast	-	-	5,600
Grand total	-	-	44,718

No. 188.

LXXXIV.—MEMORANDUM by DR. HARVEY, on Special Duty with Sir R. Temple, on the No. 213. PHYSICAL CONDITION of the PEOPLE in the DISTRESSED DISTRICTS of MADRAS and BOMBAY.

Keirgaon, March 25, 1877.

Having accompanied Sir Richard Temple thus far on his tour, and had the opportunity of seeing the greater part of the persons inspected by him, I beg to record at his request my professional opinion on their physical condition.

2. The persons seen have been—

- I. Those employed on relief works ;
- II. Those in receipt of gratuitous relief ;
- III. Portions of the general population not in receipt of relief.

R r 3

Physical condition of people in Madras and Bombay.

Physical condition of people.

3. 1. Those employed on relief works may be subdivided into—

(a.) Those employed under the supervision of the Public Works Department ;
and

(b.) Those employed under Civil supervision.

During the last few weeks this subdivision has to some extent meant that persons in class (a) under the Public Works Department are receiving the old rate of wages, while those in class (b) are on the reduced scale. For some time, however, most of the persons on Civil works were receiving the higher wage, and the number of persons seen who have been long enough on the lower rate for its effects to be manifest has been very small.

(a.) *Persons employed by the Public Works Department.*

4. The immense majority of persons in this class—men, women, and children, have appeared to me to be in as good physical condition and health as the average population of Upper India in ordinary times. Occasionally, no doubt, individuals have been met with, who from one cause or another, generally age, sickness, or the fact that they were sustaining others than themselves, were below par, and showed more or fewer signs of poverty or suffering ; but such cases have been quite exceptional. I should say of every gang in this class that so far as physique and condition are concerned, it was good ; and almost of every individual in every gang that he had not seriously suffered, and was in no danger of dying of starvation. It occasionally happens that young children, and especially children at the breast, are brought to the works by their parents in an emaciated condition ; but these have been comparatively few, and the condition of the children has on the whole been satisfactory.

(b.) *Persons on Work under Civil Agency.*

5. A very large proportion of the labourers in the Madras districts belongs to this class, and to a great extent the above remarks apply to them. The majority are in good condition, and in no danger of starvation ; and it is surprising to see so many apparently well-to-do people on the works. The gangs have, however, been much less level, and during the last few weeks a considerable number of the people have been receiving the reduced rate of wages. As yet, however, I have seen no signs of any general deterioration among the work-people in consequence of the reduction. The worst gangs seen were at Cuddapah on the 19th January, at a time when the full rate of wages were paid ; the best were at Goondakal on the 22nd February, just after the new rates had been introduced, but before they had had time to affect the people. The difference between these gangs was considerable. The Cuddapah people evidently belonged to a much lower class than those at Goondakal, and were inferior in physique and condition. Few or none appeared to be actually starving, but a good many were thin and pinched, and all or almost all seemed to be very poor and badly off. The majority of the Goondakal people on the other hand belonged to a class above the lowest, and were almost without exception in a very fine condition, looking as if they had undergone no suffering, nor even missed a meal.

6. The gangs seen elsewhere have been intermediate between these two, the Bellary and Kurnool gangs generally approximating to those of Goondakal, while the people on the works in North Arcot, Nellore, Salem, Coimbatore, though superior to the Cuddapah gangs in physical condition, seemed to belong to a lower grade in the social scale than many of those in the Bellary and Kurnool districts. In these districts, as elsewhere, very many persons did belong to the lowest classes, but the presence of a better class of people in large numbers gave a distinctive character to the gangs, and made their general level considerably better than those of other districts. It is probable that in every gang a certain number of persons could have been picked out who were below the average, and showed some signs of being in poor health and condition, but such anæmic persons are to be found at all times in every village throughout India, and I do not think they were much, if at all, more numerous than usual.

7. Within the last 10 days I have seen many thousand labourers in the Bombay districts of Sholapur, Kaladgi, Poona, and Ahmednagar. The great majority were employed under the Public Works Department, and consisted of able-bodied persons, presumably fit to accomplish a fair amount of task-work. They are paid on the sliding scale, and receive the value of a pound of grain plus one anna for a male adult. The general condition of these people I consider to be excellent, but some of the gangs in the Poona district at work on the Dhond and Munmar Railway were decidedly inferior in condition to those in Sholapur and to the Nagar gangs on the same work. The rate of task exacted was higher than in Sholapur, and many of the men were not earning the full

wage, which may explain why some of them were weak and thin, but they had been but a short time on the works, and it was expected that they would improve. Some 4,500 people employed on the Motee Bagh tank near Sholapur, who are now in admirable condition, are reported by the Engineer officers to have been in very poor case when taken on the works three weeks ago. They had been out of work for some time previously.

Physical condition of people.

8. The numbers on works under Civil agency in these Bombay districts are now very small, as all able-bodied persons are put on the regular works under the Public Works Department. All those seen by me were old or infirm persons not capable of doing hard work and all seemed to belong to the poorer classes. Many of them were old and feeble, some few were emaciated and seemed to have suffered from insufficient food before their admission to the works, but their general condition was satisfactory, and they did not seem to me to be worse off than such persons usually are.

9. II.—Those in receipt of gratuitous relief. People in this class are supposed to be unable to do any work; and the majority everywhere were the very old and feeble, the lame and the blind, lepers, and other sick persons. A considerable number were young children, and in most of the gangs there was a proportion of sturdy beggars and other persons quite able to work had they been so inclined. The general character of these gangs varied a good deal. In the majority there seemed to be little difference between the physical condition of the people and the usual condition of the same class of people in ordinary times. They were of course much below the relief labourers in physique and general health, but no special emaciation, or other sign of severe suffering was evident, save in exceptional cases. Many of the people at Vellore, however, and the great majority of them in the relief camps at Madras itself, were greatly emaciated and reduced, and had evidently endured great suffering. Many of the Madras people seen at my first visit were so far reduced that death was inevitable, but those seen at my last visit were not nearly so bad, and great improvement was evident in the general health and condition of those in the camps. Most of these poor people had not been employed on relief works, or been in receipt of relief until they arrived at the camps. They had left their homes without sufficient provision for the road, and had been wandering without proper food. Occasional isolated cases of a similar nature have been seen in almost every district.

10. III.—General population not on relief works. The poorer classes in various towns and villages have been paraded for Sir Richard's inspection. It has generally happened that a few persons have been found in poor condition and apparently distressed, who, for various reasons, have not applied for relief, but with these exceptions these people have seemed to be in much the same condition as those of their class on the relief works.

11. Speaking generally, and with reference to the distressed districts as a whole, I have been agreeably surprised and greatly pleased to find the people of all classes on the works, on gratuitous relief, and the poorer classes generally in much better physical condition than I expected, or than I imagined to be possible, considering the extent of the failure of crops, and the severity of the scarcity. I was at Bharatpur during the whole of the Rajputana famine of 1868-69, and although prices were very high, Bharatpur suffered so little compared to the rest of Rajputana, that it was considered to be outside of the famine limit. Yet even then the condition of the people was, I think, very decidedly worse than it now is in the distressed districts, except in the relief camps at Madras, and to a certain extent at Vellore. I have seen almost nothing to recall what were every day sights at Bharatpur in 1869. Isolated cases of severe distress have been seen, but I consider the general physical condition of the great bulk of the population throughout all the affected districts to be wonderfully good.

12. I have not seen enough of the operation of the reduced rate of wages to be able to give a positive opinion as to whether it is or is not enough to keep the people in health. I believe that it is so, provided always such person gets his own wages, and has not to share them with others. And I think the general satisfactory condition of the Bombay labourers, where the reduction is more stringently carried out than in Madras, and where more work is got out of the people, seems to show that it is so, and that no bad effects have followed its introduction.

No. 189.

No. 213.

No. 161, dated Adoni, the 26th March 1877.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE
GOVERNMENT OF INDIA.

Land revenue
remissions.

*p. 43.

†No. 130.

‡No. 160.

§No. 173.

By direction of Sir Richard Temple, I have the honour to address you regarding paragraph 10* of the memorandum on relief affairs in Chingleput, where it was stated on the authority of the Collector that much of the arrear of land revenue of this season could be collected next year if the seasons were favourable.

2. Some time after the publication of that memorandum, I received a letter† from the Collector, stating that there must have been some misapprehension, as he had never proposed to suspend any of the land revenue, but had recommended the “absolute remission of all the revenue on dry lands” whereon there had been no crop. I then had the honour, by Sir Richard Temple’s direction, of writing‡ to Mr. Barlow, the Collector, stating what had been the impression left on Sir Richard Temple’s mind and my own by what passed when the question of land revenue remissions was discussed with Mr. Barlow, as it has been with every other Collector whom Sir Richard Temple has had the advantage of meeting. Mr. Barlow has now written§ to the effect that he was unaware it was even in contemplation to suspend the balances of land revenue; and that if he had expressed an opinion on the possibility of collecting arrears under any circumstances, his opinion must have been that such procedure was inadvisable and would ruin the already impoverished ryots.

3. In submitting these papers, I am directed to say that Sir Richard Temple has no doubt of the accuracy of the general impression left on his mind and my own by the conversation which passed with Mr. Barlow regarding the remission question. It was well known, and had been stated in previous memoranda, that it was contrary to the Madras revenue system and to the practice of Madras revenue officers to suspend instead of remitting balances of land revenue which could not be collected as part of the demand of the year. It was known that other Collectors, and it was supposed that Mr. Barlow would be adverse to changing the Madras system in this respect. But the question before Sir Richard Temple which (as it is believed) was put to Mr. Barlow, as well as to other Collectors, was this: If the seasons are good, could not much of the balance of this year be paid by the Chingleput ryots, whose assessment is on the whole very moderate? And to that question it was distinctly understood that Mr. Barlow gave an affirmative answer. Some such answer indeed must have been given, though it must have passed from Mr. Barlow’s recollection, perhaps being given in conversation it may have been made without particular deliberation. Nor did Sir Richard Temple lay any stress upon it. Mr. Barlow’s present letters make it clear that, when the answer was given as understood, Mr. Barlow would have wished to qualify it by a declaration of his opinion that the suggested procedure was inadvisable, or opposed to the Madras system.

4. As this question between the policy of remitting and the policy of suspending, in part at least, the land revenue in famine years, will have to be considered and decided for the guidance of officers concerned with future famines, it would be well that there should be no doubt about the deliberate opinion of any responsible officer, who has expressed himself on the matter. And therefore Sir Richard Temple would be glad if the same publication could be given to this letter and its enclosures, as to the previous memorandum on Chingleput.

5. It may not be out of place to add here that in Bombay, where the system of land tenure is the same as in Madras, and where the land revenue presses, at least as heavily (if not more heavily than) in Madras, the question put by Sir Richard Temple has been decided differently. Bombay Collectors in the famine country are now engaged, with much fiscal advantage to the State, in dividing off the land revenue of their districts into—

- (a.) Revenue that can be collected now;
- (b.) Revenue that should now be suspended, and may perhaps be collected in future good years;
- (c.) Revenue that must now be remitted at once.

No. 190.

Revenue, No. 27.

To his Excellency the Right Hon. the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, March 29, 1877.

The Despatch of your Excellency in Council, dated 16th of February, No. 11 of 1877, No. 92. forwarding a summary of the principal matters which have engaged your attention in connection with the famine in Madras and Bombay since the 9th February, has been considered by me in Council.

2. Among the enclosures to the Despatch are minutes by Sir Richard Temple on the condition of Chingleput and North Arcot. In Chingleput the redeeming feature is that, in consequence of the presence of three railways in the district, the markets are well supplied with grain, but I regret to observe that the death-rate is very high in the relief camps, and that a heavy mortality among the cattle is expected, unless showers fall within the next six weeks. As this is the third bad season in the district, it cannot be regarded as matter for surprise that the Collector does not anticipate that more than half the land revenue will be realised.

3. In North Arcot, which Sir R. Temple has now visited for the second time, he found the condition of the district less favourable than he had hoped it would prove when making his first inquiries. I trust that the Government of Madras has disposed of the departmental difficulties which have delayed the commencement of certain relief works, by appointing a superior officer, as suggested by Sir R. Temple, for the general direction and control of all relief operations in the district.

4. I am glad to understand that Sir R. Temple considers the relief arrangements in Mysore to be "carefully and economically conducted," and that, in the Ceded Districts and Kurnool, "the condition of the people is fair and good, and the private trade in grain extraordinarily active."

5. I concur in the opinion expressed by your Excellency in Council and by the Government of Bombay, as to the mischief of yielding to a strike on relief works attributable to combination.

6. The question of granting remissions of land revenue in Madras has been very properly left to the discretion of the Government of that Presidency.

7. It is satisfactory that the returns again show a decrease in the number of persons on the relief works in Madras, the aggregate number being, for the week under report, 876,000, as against 908,410 in the previous week. The number of persons receiving gratuitous relief is also reduced by more than 7,000, the figures being for the present week 53,287, and for the previous week 60,402.

I have, &c.
(Signed) SALISBURY.

No. 191.

LXXXVI.—MINUTE by SIR RICHARD TEMPLE upon the Land Revenue Suspension No. 213. Question.

Gooty, March 29, 1877.

Since writing my minute, No. LIV. of the 6th March, in which I stated, among other things, that many Collectors in the Madras Presidency are in favour of the plan of suspending and not remitting the assessment on "dry" or unirrigated lands, I have seen that the Government of Madras observe in their Despatch of the 24th March that they have no knowledge of these opinions. This observation on the part of the Local Government has caused me to reconsider the statement made in my Minute above quoted, in case it should need any qualification or explanation; and I find that it does need to be further explained. If the statement were taken to mean (and it might be so read) that some Collectors appeared to me from their conversation to be in favour of suspending in the first instance the land revenue in distressed districts, leaving the question of remission for final decision when the coming season shall have declared itself—or to be in favour of making any substantial change of system—then it might need qualification. I did not exactly mean this, however, although the statement, made as it was in brief and general terms, might be so construed. I desire, however, to explain at greater length, and with more precision what I meant, and do still mean, which is this.

2. As regards what are technically called "wet" lands, that is, lands irrigated from tanks, canals, or water channels (but not wells) I never heard the Collectors express any opinion but one, namely, this, that in these cases there is a contract (which, if not expressed, is implied) between the State and the ryots to the effect that, the irrigation

Land revenue
remission
question.

Land revenue
remission
question.

work being under Government superintendence, there will be no revenue levied if the water be not supplied at all; if the water be supplied to a part of the lands, the revenue would be levied on that part only, and so on. But I understand that if, notwithstanding failure of the irrigation, some crop (perhaps an inferior crop) be raised on any portion of the lands in question, then such portion will be chargeable with dry or unirrigated rates.

3. As regards what are technically called "dry" or unirrigated lands (including, however, lands watered from wells), I understood and still understand that the Collectors regard the remission or suspension of the revenue in bad seasons to be a matter of grace, and not of contract at all, not even implied contract. Here, as elsewhere in India, there is a settlement of some sort; in some districts there has been a regular settlement after a professional field survey, in other districts the older settlements still run on, but in every district there is a settlement. The said settlement consists in this, that at the beginning of the agricultural year the ryot determines what fields he will give up or reap; upon those which he does keep he virtually engages to pay the settlement revenue rate. If upon the year the harvests turn out good, then the advantage is wholly his. If they turn out bad, then the disadvantage ought (in abstract justice) to be wholly his also; but practically, if the harvest is very bad, the disadvantage is partly borne by the State; in other words, is shared with him by the State. It is admitted, however, that he ought to bear as much of it as he reasonably can, inasmuch as he has enjoyed, and will enjoy, the entire advantage of good years without question or inquiry.

4. Now as regards the "dry" lands, the original estimates of remissions of revenue to be made in the official years 1876-77 and 1877-78, on account of the failure of harvests in the calendar year 1876, seemed to me to be very large, to have been framed at an early period of the distress, and to be susceptible of some alteration in favour of Government, as the out-turn of the season became more clear. And I perceived, or thought I perceived from the conversation of some Collectors, a hope that, when the actual out-turn of the whole of the crops came to be ascertained, and when the coming season (if happily it opened propitiously) should offer renewed prospects of plenty, the collection of the instalments of land revenue due on account of the winter and spring harvests of 1876 and 1877 might be considerably larger than the first anticipation, larger also than what was (as I supposed) the original estimate of the Board of Revenue. The remissions or suspensions would, in other words, be probably less than the first anticipations. Something considerable must, I knew, be remitted at the best; and this much of remission would be promised by an early date. But I gathered that some Collectors were disposed to hold in abeyance the remission of the remainder, refraining at present from collecting it and postponing decision as to its ultimate remission or collection until a future date.

5. It seemed to me to follow from this that there ought to be great caution exercised in promising extensive remissions at an early period, that is, until the summer of 1877. If a part of the revenue is not collected at present, and its ultimate collection is left undecided for some months (say till July or August next), then it is said to be suspended.

6. It was to all this that I meant to give brief expression in my minute above quoted. Whether, when conversing with the Collectors on a subject which is often obscured by technical or departmental phrases, I may have in any degree misapprehended local officers I know not. At all events, I submit that the view as above expressed was a reasonable one for revenue officers to hold. And if I supposed it to be held by the several Collectors, the supposition seemed to be consonant with the well-known rule of the Madras Presidency, which prescribes that in "dry" lands there shall be no remission save in very exceptional years, or in very exceptional cases. At present, indeed, there are many cases which come in this category. My apprehension was that (unless great circumspection be exercised) some cases might become included in this category which—in regard to the frequent occurrence of partial drought in Southern India—are not really so exceptional.

7. I quite understood that in a matter of this sort the several Collectors would look to the wishes of Government. If the Government thought that in justice to the general interests of the country and in reference to the circumstances of the ryot classes, reasonable efforts should be made to collect the revenue, notwithstanding the badness of the season, the Collectors would, I understood, be prepared to make such efforts. If the Government thought otherwise, then the Collectors would have no objection to spare the people accordingly. The case was not one for abstract opinion on the part of the revenue officers; it was rather one to be dealt with according to the view taken by superior authority of the fiscal obligation of the people and of their ability to discharge the same.

LXXXVII.—MINUTE by SIR RICHARD TEMPLE respecting the further Utilisation of the Department Public Works Agency in exacting Task-work from the Relief Labourers employed in the distressed Districts of the Madras Presidency. No. 213.

Gooty, March 29, 1877.

It has been known from the first that the difficulty in exacting task-work is one of the points to which attention has most to be directed in the Madras Presidency. Notwithstanding the many improvements which have been effected in the management of relief, the defects in the exaction of task-work continue to be very considerable. And even now there is time to make further improvements in this direction, inasmuch as two of the worst months of the scarcity remain (April and May), if the Madras Government shall be pleased to issue further orders on the subject.

Task-work
best exacted
by Public
Works De-
partment
agency.

2. The main cause of the failure to exact task-work lies in this, that the Public Works Department in each of the distressed districts is not sufficiently employed—indeed is sometimes hardly employed at all—in the tasking, an affair which is of all affairs the very one which it is most competent to manage, and which can be thoroughly managed by it alone. In Bellary and Kurnool especially (which are the two most important districts) and in other districts, the number of relief works under the Department Public Works is very small, while the vast majority of the relief works are under the Civil officers. Although these officers doubtless endeavour to the best of their ability to exact tasks, yet they cannot do so properly. Their tasking is at the best but light; and when the supervision is Native only, the tasks are too often nominal. So long as the relief works are under Civil officers only, the tasking will not be really effective. This is of course much to be regretted: it must tend to demoralisation with such large numbers as those who (despite all reductions of numbers) still remain on the relief rolls of the Madras Presidency. While the numbers remain so large, this defect may to some extent be inevitable; it may be said that the professional agency available does not suffice for the departmental supervision of hundred of thousands of relief labourers. Nevertheless that it is no reason why the Department Public Works should not be regularly employed at all in this business. It might be employed to some extent which *pro tanto* would be beneficial. It is this point then which I would bring to the notice of the Madras Government.

3. I know, indeed, that the Department Public Works staff do render some professional assistance to the Civil Officers. But such assistance is general only and not specific. In few and rare cases only is this staff really in charge of a relief work from beginning to end. As a rule they help in laying out the work and in appraising its worth after completion and the like, but they do not at all enforce task, and they are not at all answerable for the conduct of the operation or for its cost.

4. I have just visited the ceded districts once more for the examination of this particular point, as Bellary and Kurnool are the two most important of all the distressed districts of the Madras Presidency. In the Bellary district there are about 210,000 relief labourers, of whom very nearly all are under the Civil officers, and are often but inefficiently tasked, if tasked at all; but very few are under the Department Public Works, so few that practically we may say that there are none at all. Yet in that district there is an engineering establishment with officers and subordinates of various grades, who do not seem to be much occupied just now, and who are quite able, and doubtless would be most willing, to undertake the tasking of those relief labourers (within certain limits as to number) who may be made over to them. Surely, I submit, it is expedient to make use of this agency. The commencement of the earth-work on the railway from Bellary towards Dharwar is now under the Department Public Works, and the Civil officers are very properly selecting the strongest men and women from their relief gangs and making them over to Department Public Works for the railway work. These people then will be really well tasked.

5. But further I would suggest that in every taluk some particular work be selected and placed under the Department Public Works. For this work the Civil officers would pick out all the strongest men and men from the relief gangs, and these would at any rate be brought under real task. If the persons so picked out should refuse to go, they would of course be discharged. Those who were in real need would not refuse. The moral effect upon the relief labourers generally would be excellent. From local inquiry I am sure that such works could be immediately selected, and the plan could be

Task-work
best exacted
by Public
Works De-
partment
agency.

carried out within a day or two from the receipt of the orders. And after making this inquiry, I would suggest the following works :—

- (1.) The re-making of the road from Pennekonda to Gooty and Adoni, which would employ on task-work under Public Works Department officers 3,000 persons in each of the taluks of Hindupore, Pennekonda, Anantipore, Gooty, and Adoni - - - - - 15,000 persons.
- (2.) The road from Alúr to Goondacal, giving employment to 3,000 persons in the Alúr taluk - - - - - 3,000 "
- (3.) Certain tanks in Madaksirra for employing 3,000 persons - 3,000 "
- (4.) The Húbli Railway, on which, with a special establishment, up to 30,000 men can be employed from the Bellary and the four western taluks - - - - - 30,000 "

I believe that these works will be found to be the most suitable for this purpose, but if there be any doubt regarding any of them, some other ones might be substituted. Opposite each work I have entered the number of relief labourers who could probably be employed. The total amounts to 51,000 out of the total of 210,000 relief labourers in the whole district. In other words, about one-fourth of the whole could be thoroughly tasked and superintended by the professional and engineering staff: the remainder continuing under the Civil authorities.

6. Similar remarks apply, *mutatis mutandis*, to the district of Kurnool. In that district the Civil authorities indeed are beginning to make over a few out of the many relief works to the engineering staff, which will cause some very few thousands to be thoroughly tasked out of the total of 198,000 of relief labourers in the whole district. But this plan, excellent so far as it goes, needs, I would submit, to be further extended. And after local inquiry I believe that it might be so extended with the concurrence of the Engineer officers and their subordinates, and to the great convenience of the Civil officers. Over and above these advantages there is this cardinal advantage, that the strongest persons in the numerous relief gangs would be made over to be tasked by professional officers, whose profession includes the art and science of tasking. The moral effect of this will be salutary upon all the relief-seeking classes. After the local inquiry I believe that the following works might be thus treated, that is, made over absolutely to the Department Public Works. If there be doubt in any case, then some other work might be easily substituted. Opposite each work is entered the number of relief labourers who might be employed upon it; the total amounts to 52,000. In other words, more than one-fourth of the relief labourers of the district might be thoroughly subjected to task by a professional establishment :—

				Labourers.
Ramalkota taluk	-	Gooty road repair	- - - -	could employ 6,000
Pattikonda	" -			
Ramalkota	" -	Bellary road to Auspri railway station	-	" 4,000
Pattikonda	" -			
Ramalkota	" -	44 tanks requiring repairs, for 27 of which estimates are ready	- - - -	" 3,000
Pattikonda	" -			
Koilkantla	" -			
Koilkantla	" -	Rampore Pass road; new line sanctioned by Government	- - - -	" 6,000
Nandial	" -			
Sirwell	" -	Trunk road No. 17	- - - -	" 6,000
Nandial	" -	Trunk road No. 7, including Nundicunna- mal Ghaut	- - - -	" { 4,000 8,000
Cumbum	" -			
Nundikotkoor	" -	Road from Kurnool to Atmakoor	- - - -	" 3,000
"	" -	Irrigation tank repairs	- - - -	" 2,000
Markapore	" -	Road from Cumbum to Doopal	- - - -	" 8,000
"	" -	Irrigation tank repairs	- - - -	" 2,000
				52,000

7. With this view, however, it would be necessary to concentrate some of the Department Public Works establishment which is somewhat scattered in this district. Individual Engineers are employed here and there in advising the local Civil officer and in helping generally towards the introduction of system in relief. They would, however, be more effectively employed, if they could be placed under the orders of their own department and upon particular works solely under their charge.

8. In my minute No. LXXV., dated 16th March, I discussed the very great advantages of professionally controlled relief works; and the object of the present minute is to show these advantages can, under present circumstances, be attained in the ceded districts. In representing this matter to the Government of Madras, I am not without precedent; for this very plan is in full force at this moment throughout the distressed districts of the Bombay Presidency; and although it may not be possible to introduce it to the same extent in Bellary and Kurnool, yet even in these districts it might be easily carried out to some extent, and to that extent it would prove most beneficial.

Task-work best exacted by Public Works Department agency.

No. 193.

XCI.—MEMORANDUM by CAPTAIN W. S. S. BISSET, on his visit to Bombay and the Nagpore District of the Great Indian Peninsula Railway.

Nos. 210.
221.

Bangalore, 31st March 1877.

According to the instructions conveyed in Sir Richard Temple's minute of the 13th March 1877, I visited Bombay on the 19th March, for the purpose of inquiring into the causes of the diminution of the supply of food grain from the north to the ceded districts, and I was present at a meeting held on the 20th March between the Consulting Engineer and the Agent and the General Traffic Manager of the Great Indian Peninsula Railway.

Grain traffic arrangements.

At this meeting a resolution* was recorded to the effect that the grain destined for the famine districts should have preference to all other consignments, and that waggons for its conveyance should be provided to the full extent indicated in Sir Richard

* A copy of this resolution has already been sent by Colonel Hancock for Sir Richard Temple's information.

Temple's minute.

2. I visited the Nagpore line of railway on the 21st, 22nd, and 23rd March and made inquiries into the accumulations of grain at each station, and also about the urgency of the demands for carriage. My notes† are appended in detail.

3. The accumulations of grain which existed in the month of January‡ had been cleared off by the middle of February; the fresh stocks§ now lying in the railway stations are much smaller than the previous ones, and they are to a larger extent than before destined for Bombay itself, probably for shipment|| to the ports on the western coast. The detention of grain at the stations is not so prolonged as formerly, but owing to the uniform demand for carriage from all parts of the Great Indian Peninsula Railway and to the large through traffic from Hindustan to Bombay, it has not been found possible to provide waggons or train-room to carry away the grain as fast as it is offered.

† On 19th January 1877 there			
were lying at Nagpore	-	-	8,500 tons grain.
At smaller stations	-	-	7,000 " "
Total	-	-	15,500 " "

§ On 21st March 1877 there			
were lying at Nagpore	-	-	1,500 tons grain.
At smaller stations	-	-	3,500 " "
Total	-	-	5,000 " "

|| The shipments from Bombay to the Southern Mahratta ports amounted to nearly 9,000 tons in the first 15 days of March. The despatches to the more southerly ports are not abstracted.

The reduced accumulations at the railway stations seem to indicate some reduction on the demand for carriage, but there have been changes in the mode of receiving goods which have tended to limit these deposits; and there seems no doubt that large quantities of grain are from various causes kept back in the bazaars and in the villages.

The brokers in attendance at the minor stations say they keep much of their grain back rather than take the risks of exposure to the weather and to the ravages of white ants during the unknown period of detention at the smaller railway stations. And for these reasons I believe that the reduction of the demand for carriage is not proportionate to the reduction in the weight of goods awaiting despatch.

4. The system of registration of goods actually deposited in the Nagpore station yard is most carefully carried out, and it appears to give the greatest satisfaction. The merchants understand it thoroughly, and they look after their own and their neighbours' allotments very sharply.

At the smaller stations some of the consignors think their claims are postponed for the advantage of senders from other stations, but they have no grounds for this belief

Grain traffic
arrange-
ments.

except their annoyance at having to wait. The only important requirement is that more goods shall be carried away, and with the present extraordinary pressure on the railway, this is the cry from all sides, and it is not perhaps much satisfaction to the merchants who have to wait to know that their goods are having, or that they are likely to have in their due turn, their proper place in the largest traffic that has ever been carried on this railway.

I have, however, ventured to suggest that instead of an undefined date for clearing off the accumulations at the roadside stations, there should be a periodical clearance, any one day of the week being fixed for each small station on which goods might be received, consigned, and despatched to such extent as is practicable. On the motion of Colonel Hancock, Consulting Engineer for Railways, this proposal has already been taken into consideration by Mr. Conder, and a decision may be expected shortly.

5. A few of the consignors at the smaller stations were loud in their appeals for waggons, not, however, to take away grain, but mainly to convey linseed to Bombay to meet contracts made for the end of March.

In the grain trade there is not at present the same prospect of large profits that there was in January, and, although there appears to be abundance of grain for despatch, there is less speculation and less anxiety for immediate transport. The anxiety is proportionate to the anticipation of profit, and the present prices in the famine districts of Sholapur and Madras give a sufficient but not a very large profit.

6. And there is a heavy demand for grain from Bombay itself, apparently of equal

The shipments from Bombay to the Southern Mahratta Ports amounted to nearly 9,000 tons in the first 15 days of March.

EXTRACT FROM NOTES.

In the week from the 15th to 21st March the despatches from Nagpore are shown below:—

	To Bombay.	To Poona and Sholapur.	To Raichore and Madras.
	Tons.	Tons.	Tons.
Linseed - - -	493	—	—
Wheat - - -	188	455	143
Jowari - - -	219		
Rice - - -	60		
Pulses - - -	65	—	—
Total tons -	1,025	455	143

On the 22nd March the consignments were—

	Tons.	Tons.	Tons.
Linseed - - -	80	—	—
Grains, &c. - -	180	176	66
Total tons -	260	176	66

urgency with the needs of the Deccan and Madras. This is evident from the figures in the margin, which show the despatches of linseed, grain, &c. from Nagpore during the seven days immediately preceding my visit. It may be necessary to explain that under the present arrangements for receiving and despatching grain at Nagpore station, these figures indicate very exactly the current demands of the several markets.

So that, although it is moderately certain that much more grain would have been despatched from Nagpore if there had been more waggons available, it is apparent that the merchants might have sent much more to the Poona and Sholapur Districts and to Madras if they had preferred doing so to sending linseed or grain to Bombay. And a very small rise in prices will again divert the flow of traffic to the south.

7. It is satisfactory to learn that although the deliveries of grain by railway have during the past fortnight been smaller than those which in the early part of the month excited some apprehension, the prices of grain have remained steady at Poona, Sholapur, and in the principal markets of the ceded districts of Madras. And it may be inferred that the requirements of grain have been estimated at too high a figure, and that the present importations are sufficient to meet the present wants.

8. The Great Indian Peninsula Railway has so much to do that it must sacrifice some of its Bombay traffic to carry more grain to Sholapur and Madras. The Government of India are arranging to augment the engine power of this railway, and in the meantime the Agent and Mr. Conder are prepared for the sacrifice, and they have arranged that the requisite number of waggons shall be provided as soon as the grain is presented.

The Madras Railway has, comparatively speaking, nothing but grain and salt to carry at present, and it is, I have good reason to believe, capable of carrying about half as much more grain as it has conveyed* during the month of March.

There is therefore every reason to hope that the railways will be equal to their share of the work, and from the evidence afforded by the recent reports there is little room to doubt the sufficiency of the means of carriage from the railways to the interior of the affected districts.

* Approximate total delivered by rail from all sources during March, 52,000 tons.

No. 194.

EXTRACT paragraph 7 from LETTER from GENERAL TRAFFIC MANAGER, to ACTING AGENT, Great Indian Peninsula Railway Company, No. 1,040, dated 2nd April 1877. Nos. 211. 256.

With regard to Jubbulpore there are 18,212 bags at the station. This is a much larger quantity than it would otherwise have been, owing to the East Indian Railway having booked grain from stations on their Jubbulpore line to Jubbulpore which was intended for Bombay. In some cases they have invoiced it through to destination, unloading it at Jubbulpore, to be reloaded into our trucks there, and in other cases, as I am informed, they have booked it as far as Jubbulpore only, both plans being contrary to the agreement and injurious to the trade; and also complicating our arrangements and causing delay. I am communicating with the East Indian Railway authorities on this matter, and, if necessary, will refer the question to you for further action. Grain accumulation at Jubbulpore.

No. 195.

LXXXIX.—MINUTE by SIR RICHARD TEMPLE regarding the Physical Condition of Relief Labourers with reference to the reduced Rate of Wages. Nos. 196. 221.

Bangalore, 3rd April 1877.

When questions arose as to the sufficiency of the revised scale of relief wages in both the Madras and the Bombay Presidency, the Government of India was pleased to depute, at my suggestion, Dr. Townsend, the Sanitary Commissioner, to visit the distressed districts and advise me whether the present rate of wages is sufficient to keep needy relief labourers in moderately good health. Dr. Townsend has now inspected more than 32,000 persons on relief works, of whom 29,000 were in the Madras Presidency; and he has drawn up a report stating his views and the grounds upon which he forms them. The reduced scale of wages.

2. I desire to lay this report of Dr. Townsend's before the Government of Madras. It will be seen that Dr. Townsend's experience and his knowledge leads him to lay little stress on the physiological argument that the reduced wage does not furnish the relief labourers with a sufficiency of certain elements of food. He prefers to decide the question, so far as decision is now possible, by investigating the physical condition of a large number of labourers of both sexes and all ages, who have been subsisting on the reduced wage for periods ranging from three to five weeks. His report and its annexure show that he found the relief gangs which he inspected to consist, in the main, of men, women, and children who were in good health and in moderately good condition. In nearly every large body of labourers he found some persons whose condition was below par. But in most of these cases he found that the sufferer's condition was referable to other causes than inadequacy of wages. Either the person had come very recently on to the works—in some cases he or she was supporting others from the subsistence wage intended for one person's support only—or the person had recently suffered from fever or guinea-worm. In some gangs a very few cases remained of persons whose reduced physical condition was not due to any other causes. But Dr. Townsend considers that the number of such exceptional cases was hardly greater than that which would be found among ordinary workpeople in ordinary years. Though Dr. Townsend has no special knowledge of the Southern India races, he has a very extensive knowledge of all classes of the people in other parts of India.

3. I am able to say that Dr. Townsend's views on this important matter coincide with mine, which have been formed after inspecting nearly 200,000 people under relief in Southern India. And my impression is that the majority of the Civil officers, the relief officers, and the engineering officers, employed in supervising relief operations in the Madras Presidency, hold the same views. Yet these officers are in no way wanting in thoughtful consideration for the people, or in energetic care in watching their condition. Of the senior Civil officers, Mr. Price, the Collector of Cuddapah, is the only one who has, to my knowledge, reported an opinion that the reduced relief wage is generally inadequate. But that view is not borne out by Dr. Townsend's inspection of some gangs at or near Cuddapah. And from my own knowledge of the relief gangs in that district, I should not be disposed to concur with the Collector.

4. Every relief officer must occasionally, as Dr. Townsend did, and as I have often done, come upon cases of relief labourers who are really reduced and who require special treatment. But I see no reason for thinking that such exceptional cases require or warrant a general enhancement of the wage rate.

5. The orders of the Madras Government, dated the 14th March, which were passed by them after conferring with me, and in which I fully concur, direct that relief officers

The reduced scale of wages

shall treat specially all cases of relief labourers who, from any cause, have fallen into a reduced condition of body. So far as my inquiries have gone, very few officers have found any cause to avail themselves of this discretion. But the humane instructions of the Government in this matter ought to be acted upon, wherever necessity arises; and if they are so acted upon, then I am confident that if the full wage* reaches punctually and not less than three times a week, then the present scale will suffice to keep in health relief labourers who do only a very moderate daily task.

6. I would therefore recommend the adoption of the opinion of the Sanitary Commissioner, Dr. Townsend, to the effect that there are not as yet any sufficient grounds whatever for any general raising of the relief wage rates in the Madras Presidency.

7. And I would again represent in the most earnest terms that, if unhappily some poor wanderers fall in a dangerously reduced condition and die, as has been the case in the relief camps near Madras, then such sad occurrences can be prevented and should be prevented, not by any general raising of relief wages, but by increased care and watchfulness in conducting house-to-house inspection, and in all the villages throughout the interior of the country, and in searching out all cases of poor creatures who wander away in search of charity and who never go upon the relief works at all.

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XC.—REPORT by SURGEON-MAJOR S. C. TOWNSEND, Officiating Sanitary Commissioner with the Government of India, on the Condition of the Famine Relief Labourers in the Madras Presidency.

Bangalore, 3rd April 1877.

Physical condition of labourers maintained on reduced scale of wages.

I was directed by the Government of India to proceed to Sholapur and put myself in communication with Sir Richard Temple under the following circumstances.

2. The Government of India in letter from the Additional Secretary in the Department of Revenue, Agriculture, and Commerce to Sir Richard Temple, No. 45, dated 16th January last, had laid down as the principle on which relief in the famine-affected districts of Bombay and Madras should be conducted, and while every effort should be made, so far as the resources of the State admit, for the preservation of deaths from famine, it is essential that the most severe economy should be practised, and moreover that, apart from financial considerations, it would not be just on the part of Government to attempt the task of preventing all suffering, and giving general relief to the poorer classes of the community, that indiscriminate charity on the part of Government would not only inevitably lead to the imposition of heavy and permanent burdens on the industry of the country, but would also tend to demoralise the people themselves.

3. In order to carry out the principle thus laid down, relief works were established of two kinds; one under the Department Public Works on which task-work could be exacted, and on which a full wage for a full task could be obtained by those who were able and willing to work; the other, works under the Civil administration established solely with the view of affording relief to persons who might be incapable of performing full task-work, or who in ordinary times would not undertake out-of-door labour. These Civil relief works have for the most part been established near the centres of population and conveniently near the homes of the people that would come on them. But while the Civil works form a very necessary part of the measures of famine relief, they are attended with the danger of creating difficulties in the labour market by withdrawing numbers of labourers from the usual occupation, and also of inducing a large influx of persons of both sexes who are not really in need of relief. In order to obviate this danger it was necessary to fix the rate of wage as low as possible, and to make it no more than is sufficient to maintain the applicants for relief in fair physical condition under the light amount of labour-exacted from them.

4. Up to the middle of January the rate of wage in the ceded districts of the Madras Presidency was 2 annas per diem for a male adult and proportionately less for women and children. This rate was fixed on the supposition that it would purchase $1\frac{1}{2}$ lb. of grain per diem, a quantity which was deemed essential for a man while at work. But it seemed to Sir Richard Temple that this rate of wage was too high, and that it had the effect of inducing numbers to come on the works who were not really in want, and withdrawing many from their usual occupations which were still open to them. He

* NOTE.—That is to say—

10½	annas for a man,
8½	” woman,
5½	” working child,
1½	” infant unable to work,

per week, when food is not dearer than 8 seers (16 lbs.) per rupee.

accordingly recommended in his minute of the 19th January that the rate of wage given on Civil relief works should be reduced from 2 annas to $1\frac{1}{2}$ for an adult, which at the prevailing prices would purchase a pound of grain, and leave a margin for condiments, vegetable, and the like. This recommendation was in effect adopted, and a reduced rate of wages ordered in the Madras Government order No. 329, dated 31st January 1877.

Physical condition of labourers maintained on reduced scale of wages.

5. The reduced rate was fixed so long as grain could be bought at 16 lbs. per rupee at $1\frac{1}{2}$ anna for adults, $1\frac{1}{4}$ anna for women, 9 pie or $\frac{3}{4}$ of an anna for children above seven years of age. This rate appears to have been brought into force generally on the relief works from the 15th to the 20th February. The practice is not uniform on all works with respect to payment for Sunday. On most of the works it is given; in some, as at Adoni and Cuddapah, it is not.

6. About the same time the allowance of 3 pie or $\frac{1}{4}$ of anna to children too young for labour was sanctioned, a measure which practically nullified the reduction in the case of married people with three or more children which they had been obliged to feed on the former rate of two annas.

7. In a letter to the Secretary to the Government of Madras, No. 115, dated the 13th February, Dr. Cornish, the Sanitary Commissioner for Madras, objected to the reduced scale of diet recommended by Sir Richard Temple, that it was not sufficient to maintain labouring persons in health, and that its adoption was fraught with great danger to the health of the people. Dr. Cornish's objection to the scale was founded chiefly on physiological grounds, that a pound of any of the grains used by the people did not contain the nitrogenous elements of food in sufficient quantity to supply the waste of the muscular and other tissues under labour. As Dr. Cornish's argument on this point seemed to Sir Richard Temple open to question, and as the conclusion arrived at, if acted upon, would involve a large increase of expenditure on famine relief, Sir Richard Temple deemed it advisable to ask for another opinion on the subject, and on the 16th of March I was directed to proceed to Sholapur and join Sir Richard Temple.

8. The point in question cannot in my opinion be decided on physiological grounds. It is true that some years ago the doctrine on the subject was, that muscular exertion entailed waste of muscular tissue, and that in order to compensate this waste, food containing nitrogenous principles must be supplied in proportion to the labour undergone, but later investigations have, I believe, tended greatly to modify this teaching, and certainly at the present time there is no theory on the subject so generally accepted or founded on data so incontrovertible that no economic question involving the expenditure of large sums of public money can be decided by it.

9. The question of the sufficiency or otherwise of any scale of diet can only be decided by observation of its effect on individuals and on masses of people, and observations of this kind in a time of scarcity like the present, if conducted impartially and without bias towards theories, cannot fail to contribute facts bearing on the question of the quantity of food of different kinds that is necessary to the support of the human system under certain conditions which would be of great value, from a scientific point of view, as well as for guidance in the conduct of measures of relief in future times. Observations of this kind, however, are beset with certain difficulties and sources of error, which have to be guarded against. Accurate information is wanting regarding the state of the people when they first came on the relief work, and again of their state when the rate of wages was reduced. Moreover, a knowledge of the aspect and condition of the poorer classes in ordinary times is requisite to enable one to form a just estimate of the effect that the prevailing scarcity may have had on them. I have no knowledge of the population of this Presidency, but considerable experience in other provinces leads me to believe that at all times signs of mal-nutrition are more or less visible among the poorer classes of the populations of India. A loose and shrivelled skin, a pale and anæmic aspect and emaciation will certainly follow privation and insufficient food, but the same appearances may arise from defective nutrition resulting from constitutional debility or disease. Again when famine presses hard on the population, diminutive and emaciated infants become numerous and form one of the most painful evidences of the prevailing distress; but in the best of times, if any large portion of the poorer classes were subjected to inspection, the number of these distressing objects would be considerable. Our statistics show that the rate of mortality of infants among the population of this country is as high or even higher than in the manufacturing districts of England, and it is more than probable that the number of women who are unable to nourish their infants is as numerous here as in other countries, while it is not the habit of the mothers to supplement their own defective supply by other food. In short, the scale of living among the population of this country is at all times low. Diseases resulting from mal-nutrition are common, and the rate of mortality compared with that of other countries is very high; therefore when inspecting masses of people

Physical condition of labourers maintained on reduced scale of wages.

collected from the poorer classes with the view of estimating the effects of abnormal scarcity among them, a very large allowance must be made for what may be called permanent poverty, and which it is beyond the power of Government to remove.

10. The want of accurate information as to the extent to which the people on the relief works possess sources of support, other than the daily wage given them, is another obstacle in the way of forming a correct estimate of the sufficiency or otherwise of that wage to maintain them in fair condition. Where the gangs are encamped on works away from their homes, and where the men are equal to or outnumber the women, it is probable that the majority are dependent solely on the wages they earn; but when the works are near the larger towns and the gangs are composed to a very large extent of women and children, it may be assumed that the men are earning wages in some form elsewhere, and that the earnings of the women and children are simply accessory to the ordinary means of support. On the other hand, inquiry will often elicit the fact that individuals on the works are supporting with their earnings a child or relation at home besides themselves.

11. But notwithstanding these difficulties it is possible by a careful scrutiny of large gangs of people in different localities, combined with information derived on the spot from the officers who have superintended the relief measures from the commencement and have watched the condition of the people, to arrive at a fair estimate of the extent to which the people have suffered and are suffering from the prevailing scarcity of labour and dearthness of food, and how far the measures adopted for their relief have proved successful.

12. The appended notes give the details concerning the several gangs that I have inspected in the course of my tour. I will here only direct attention to the points more particularly bearing on the question of the sufficiency of the reduced rate of wage. The first bodies of relief labourers that I inspected were at Sholapur in the Bombay Presidency. Here there were two bodies of labourers, a large body of upwards of 3,000 employed under the Department Public Works, and performing about half the task ordinarily exacted from able-bodied labourers. The men were receiving $1\frac{3}{4}$ annas, the women $1\frac{1}{4}$, and the children $\frac{3}{4}$ of an anna. Here there was no question as to the sufficiency of the food. Men, women, and children appeared in good condition, and there was no doubt on the part of the officers superintending the works that the wage was quite sufficient for the support of the labourers in health.

13. The other body of labourers was employed under the Civil authorities and numbered about 300. A large proportion of them was above middle age, and they had come on the works in January in an enfeebled state. Some of these people had improved since they came on the works, but as a body they were much lower in condition than the gangs under the Department Public Works. The wage given was in both instances the same, with the exception that the men employed on the Civil works received only $1\frac{1}{2}$ annas instead of $1\frac{3}{4}$; in neither case was payment given for Sundays, when no work was done. The lower condition of the Civil gangs was no doubt due chiefly to the circumstance that they had become more reduced before coming on the work. The average age of the adults was greater, and it is probable that at the best of times they were below the average in physique.

14. At Adoni I inspected nearly 13,000 relief labourers, the greater majority of whom had been on the reduced rate of wage for above a month. The task-work performed was very light, not more than one-tenth of the task exacted from a coolie in ordinary times. The largest gang employed on the Yemmogamir road was composed chiefly of inhabitants of the town of Adoni; the other gang contained chiefly people belonging to the agricultural population. As a rule, all these people were in fair condition, and in the opinion of the relief officer they had not deteriorated since the reduced rate of wage had been in force. There were of course exceptions, and weakly and feeble people were here and there picked out; but these exceptions consisted of persons who have never been in good health and condition, or it was found on inquiry that the individuals shared their wages with a child or other relative.

15. At Bellary I inspected upwards of 10,000 relief labourers. At the Hiliyal road, where a large body of 7,500 was employed, the men considerably outnumbered the women. Task-work was exacted, and if the task was not complete, less wage was given; and the great majority were receiving less than the reduced rate. There was, however, no sickness among them. The number whose appearance called for inquiry was very small, and the impoverished appearance of the individuals lighted on was usually accounted for in much the same way as at Adoni. The relief officer stated that these gangs had improved greatly in appearance since the works were established, and they had certainly not fallen off since the reduced rate of wage had come into force.

16. In Cuddapah I inspected two bodies of labourers; one numbering 950, employed close to the town and station, consisted chiefly of the inhabitants of the town, and the women greatly outnumbered the men; and several of these women were the wives of syces and other servants of Europeans. The daily task exacted was light and was commonly completed. In my opinion these people were in appearance little, if at all, below the standard of health common in the town populations of this country. Some were no doubt thin and anæmic, but the number was small, and in the majority of these cases the individuals had only lately come on the works or had been suffering from fever. The other gang, 800 strong, that I inspected in Cuddapah was composed chiefly of agricultural population belonging to the surrounding villages. Here also the women generally outnumbered the men, who were said to find work elsewhere. The general appearance of these people was very good. A very large number of the men and women were as stout and healthy-looking as they could be in the best of times; here and there thin and weakly persons were observed, but on inquiry it did not appear that their weak condition was attributable to want of food. The relief officer stated that when the people received the higher rate of wages they did not spend more in food than they do now, but saved the difference, and they have not deteriorated in condition since the wage was reduced.

Physical condition of people maintained on reduced wage.

17. At Vellore, North Arcot District, I inspected altogether about 3,000 people: 1,120 employed and 400 applicants for employment in the construction of an embankment on the Palaar River, may be considered as samples of the population who have not hitherto been on relief, for those employed had been collected some for about a fortnight, others for not more than a few days. The proportion of men employed here was small, being only 7 men to 28 women and children, and a very large proportion of the men were old or elderly. The task exacted here is 75 per cent. of the ordinary Department Public Works rates, and the people are paid at the following rates:—

Men	-	-	-	-	1 anna 11 pie.
Women	-	-	-	-	1 anna 5 pie.
Children	-	-	-	-	1 anna.

This is higher than the reduced rate given in other districts, and seven days' payment is given for six days' work. The elderly men were most of them of spare habit, but they were fairly muscular and their appearance healthy. The younger men were for the most part robust and in good condition. At the Sooriaghuta tank 1,600 people are employed, and here the proportion of men is very small, being only 3 to 35 women and children. This small proportion of men on the works is attributable to the circumstance that in this part of the country agricultural operations and other means of employment are not suspended to the same extent as in the ceded districts, and that the able-bodied men are for the most part employed in the occupations that engage them in ordinary seasons; but at the present prices of food their earnings do not suffice to maintain their families, and women, who in ordinary times would not undertake coolie labour, are on this account induced to come and earn additional means of subsistence on works which are conveniently near their homes. The gangs at the Sooria tank were first formed on the 24th November. From the 19th February to the 25th March they were on the reduced rate, but it has now been again raised to the same rate as on the Palaar Embankment, because the people did heavier tasks. As a body, these people were in fair condition, and so far as I was able to ascertain did not deteriorate or show signs of weakness during the five or six weeks that they were on the reduced rate of wages.

18. At the Vellore relief house 700 people who are incapable of work are fed. The proportion of men and women is about equal. Each adult male receives daily 1 lb. of dry rice cooked; 10 ozs. of this is given at 10 o'clock, and the remainder in the evening. To the evening meal is added half an ounce of dal mixed with vegetable and condiments in the form of curry. In many of these people the effects of famine are very evident, particularly among a number of people who have come in from the Kulhustri zemindari, but they are improving on the food now given them.

19. Taking the evidence that has come before me in the course of my tour, I can arrive at no other conclusion than that the rate to which the wage of the relief labourer was reduced on the recommendation of Sir Richard Temple is sufficient to support them in fair condition, provided that care is taken that the individual recipient is the only person who is supported on it. And I see no reason why the wage should be raised unless an equivalent amount of work is performed.

NOTES by DR. TOWNSEND, Officiating Sanitary Commissioner with the Government of India, deputed at the request of SIR RICHARD TEMPLE to investigate and ascertain whether the Scale of Wages now given to the People employed on the several Famine Relief Works is sufficient to support them in fair health.

Bangalore, April 3, 1877.

Reduced
scale of
wages.
Report by
Dr. Towns-
end after
inspection
of people.

Sholapur (Bombay), March 20th.—Inspected a large body of people, about 3,000, including women and children employed under the Department Public Works in excavating a large tank (Moti Bagh). The men are employed on task-work, the daily task being 54 cubic feet, or about half the ordinary task for an able-bodied coolie; for this he receives 1 anna and 9 pic. The women and children employed to remove the earth excavated receive $1\frac{1}{4}$ and $\frac{3}{4}$ of an anna respectively. No work is done and no pay given on Sundays.

Men, women, and children are in good condition. They exhibit no signs of being underfed, and there is no sickness among them attributable to insufficient food. I inspected the camps, and many of the people were preparing their evening meal; some had jowari, many wheat of a rather inferior quality, some Indian corn and jowari mixed; others bajra and toor. Salt, chillies, onions, were in common use. The young children were in very good case.

March 21st.—This morning rode out with Mr. Percival, the Collector, to visit a gang of labourers employed under the Civil authorities in excavating a tank about three miles from Sholapur. These were a much poorer lot than the gangs employed on the Moti Bagh tank. A very large portion of them were old and infirm, or in some way incapacitated for hard labour. Task-work is not exacted, and they accomplish very little in the day. The number employed here was about 300. The men receive $1\frac{1}{2}$ annas, the women $1\frac{1}{4}$ annas, and the children 7 to 9 pic. The bigger lads are reckoned as women. Children too young to work receive 3 pic each.

The greater number of these people had been on the work at the above rate of wages since the middle of January. Their condition varied considerably. Many were stout and in good condition; others were thin and weakly. The majority of the latter were old and infirm, but there were a few among the lads and young women who were undoubtedly suffering from the effects of insufficient nourishment. These cases, however, had come on the relief work very feeble and emaciated, and they had improved since. The young children were in very good condition and looked to be well cared for.

On the way back we inspected the charitable relief house, where about 200 people, old and infirm, or from other causes incapable of work of any kind are relieved. All were fit recipients of relief.

Adoni (Madras), March 26th.—Inspected with Mr. Oldham and Captain Hamilton.

1. Inefficient gang established 10 days and composed of persons who had previously been in receipt of charitable relief at the relief house, and of old and weakly persons drafted from other gangs. The number, including women and children, was 253. They were employed on light work, forming platforms for the sheds constructed near the railway station for storing grain.

Ration given—

To men	-	-	-	$1\frac{1}{2}$ annas.
„ women	-	-	-	$1\frac{1}{4}$ „
„ children on works	-	-	-	$0\frac{3}{4}$ „
„ young children	-	-	-	$0\frac{1}{4}$ „

Only the inefficient gangs receive pay or relief on Sundays.

Many old people were thin and shrivelled by reason of age. Only two old women looked weakly. There were no symptoms attributable to insufficient food. The children as a body were in very good case. Two infants, very thin and miserable-looking, had been suffering from fever.

2. A body of people numbering nearly 700 wanting work. These were mostly people who had been employed on relief works, but who had been discharged in consequence of their refusal to shift to works not more than 10 miles distant. The condition of the people was generally good, especially the women and children. The people who looked in worst condition were a few who had not been on any relief work at all.

3. A gang of 507 workpeople.—These people have been on works for some months altogether, and for one month on the reduced scale above given. As a body they appear to be in good condition. No sickness among them, with the exception of small-pox among the children. A few that we picked out as looking rather weakly had been only a few days on the works. One man had been feeding two children who were not in receipt of relief. Practically task-work is not exacted.

Five hundred cubic feet of earth-work is assigned to 50 men, which is half the ordinary task, but on measurement it is found that they execute only one-fifth of the task assigned.

4. Gangs from Sirgoopah Road, 1,208 in number, exclusive of very young children.—The condition of the women here was not so decidedly good as in the gangs close to Adoni. There was, however, nothing in their appearance to afford ground for fear that they were not now receiving sufficient nourishment. The condition of the men and the children on the other hand was very good. In some few cases men whom we lighted on as looking weakly, were found on inquiry to be sharing their ration with a wife or child at home.

5. A gang of applicants for labour, 139 in number, who had struck work on being selected for transfer to a short distance 20 days ago.—All in very fair condition. In a similar gang belonging to the Aloor taluk, 220 in number, a few persons exhibited signs of having been insufficiently fed.

6. Gang of Madaveram, 3,100, inclusive of 400 young children.—As a body, men, women, and children in good condition. Here and there where a weakly-looking individual was lighted on, it was found that he or she was suffering from fever, or sharing his ration with a relation not on the works.

7. Yemmigenoor Road.—Gang 7,000 strong, including women and children.—The greater number of these people are inhabitants of Adoni, and come out daily to the work, a distance of four or five miles. The total population of Adoni is stated to be 25,000. As a body, men, women, and children are in good condition. The young men and women with few exceptions were plump and well nourished. The exceptions consisted of persons who at no time are in good health and condition; one youth, for instance, consumptive; another had the scars of old ulcers in the thigh, and was lame from this cause; a third had a withered hand. Among the older people many exhibited that shrivelled condition of skin which is common among elderly natives of this climate at all times; but in other respects they were in good condition and looked healthy. In cases exhibiting weakness and want of nourishment the same explanation was given as in the gangs previously inspected. Either the individuals had been suffering from fever, or a child or other relation was sharing their means of subsistence with them. This was particularly the case with some of the women, for the allowance of 3 pie to each young child had not been distributed to the full extent intended by Government. The Adoni relief officers are now remedying this shortcoming.

Bellary, March 27th.—Gooty Road.—Gangs assembled on the fifth mile. The whole number employed from the fifth to the tenth mile amounts to upwards of 7,000, but the order to bring them together for inspection did not reach the relief officer sufficiently early, and not more than half were collected for inspection. The wages here given are the same as at Adoni. As a body, the people were in good condition, and a large number of the men who were stout and able-bodied were selected as fit for transfer to the Nellore irrigation works, others for the earth-work of the line of railway to be constructed from Bellary to Dharwar. Of those selected for transfer to Nellore about 50 per cent. consented to go.

Bellary, March 28th.—Hiriyal Road, sixth to eighth milestone from Bellary.—Gangs numbering altogether 7,500 * have been established three or four months. The employment consists in breaking and stacking metal and in excavating gravel. Task-work is exacted at the rate of six cubic yards from each gang, consisting of 25 men, 20 women, and 5 children; and for

* 3,750 men

3,000 women.

600 children above 7 years.

600 children under 7 years.

this task the payment is $1\frac{1}{2}$ annas men, $1\frac{1}{4}$ annas women, and 9 pie children; but very few gangs not amounting to 500 people altogether complete this task in a day and draw the full wage. The great bulk receive only $1\frac{1}{4}$ anna men, 1 anna women, and 7 pie children. The young children are allowed 3 pie each.

Rice is the food chiefly consumed by these people. Cholum is procurable in the shops where they purchase their food, but they buy rice in preference. The bazaar price of rice is 8 seers per rupee. Mr. Smith, the relief officer, showed great knowledge of the people under him and was able to give the history of a great number that we had reason to inquire about. As a body, these people are in very good condition. In walking down the long line the number whose appearance called for inquiry was very small, and in all or nearly all cases the impoverished appearance of the individual lighted on was accounted for:—

1st. A thin child through an oversight had not been registered in the list of those receiving the 3 pie allowance.

2nd. A very thin famished woman had only joined the work from a distant village two days previously.

Reduced
scale of
wages.
Report by
Dr. Towns-
end after
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of people.

3rd. Another woman who gave the same explanation.

4th. Two brothers who had been on the work less than a week.

5th. An oldish man who had been on the work about a fortnight, and though thin had improved since he joined.

Mr. Smith, the relief officer, states that as a body these people have improved greatly in appearance since the works were established, and they have certainly not fallen off since the reduced rate of wage came into force. If on first arrival any of them are in a very bad state, they are first fed on cooked food for some days, but as soon as they are at all able they were allowed to wander on the works though without doing much, and they seemed to improve better on this plan than when kept altogether in the relief hospital. In some few cases the infants at the breast showed signs of being insufficiently nourished, but it was by no means the rule in their cases that the mother was in bad condition. At all times in a certain number of cases women will be unable to sufficiently nourish their infants.

Cuddapah, March 29th.—Inspected some gangs of labourers employed in excavation of a tank close to the town of Cuddapah. Dr. Cornish, Sanitary Commissioner for Madras, was kind enough to accompany me. They mustered 950 in all, arranged in gangs of 50, consisting of 20 men and 30 women and children. The number of children was small; the women greatly outnumbered the men, the people were chiefly the residents of the town and of villages within two miles, and the Civil Surgeon, Mr. Hyaswamy, stated that a very large number of the women were the wives of syces and other servants of Europeans. The wages given are:—

Men, 1 anna 5 pie.	Children above 7, $8\frac{1}{2}$ pie.
Women, 1 anna 2 pie.	Children under 7, 3 „

Payment is made on Sunday for six days. The daily task-work nominally exacted is 24 cubic yards of earth-work for a gang of 50. This task, which is very light, was commonly completed; but even if it were not, the wage above mentioned was generally given.

In my opinion these people were in appearance little, if at all, below the standard of health common in Native populations. Some were no doubt thin and anæmic, but the proportion in this condition was not great. In many instances individuals that struck us as being more enfeebled than others were found on inquiry to have been on the works a very short time. One of them had been on a fortnight, another came on only yesterday. A very thin weakly-looking woman had come on the works three days ago, another, a Brinjara, had been on only four days. A thin elderly man who looked weak was suffering from fever. One man, thin and anæmic, had been on the works from the commencement, but on either side of him there was a very stout strong man who had also been on the works for months.

I also inspected at Cuddapah a relief camp whereat persons coming in from the districts in a weak and enfeebled condition are supported until they become fit for work, when they are transferred to the works. The food here given is cholum and ragi mixed. Two meals are given daily at 10 and at 5, each meal consisting of 12 oz. of the above grain with condiments for an adult male. Women and children receive less. The greater number of these people were old and unequal to labour of any kind. It appeared that many of them were kept at the camp against their will; they would prefer being at large, picking up what they could by begging. No betel-nut being given was one reason why they disliked being detained in the camp.

Some of the people supported in idleness at the camp would, I think, have been more suitably provided for at the works. There was one woman, for instance, in very good condition with four children in equally good case; also a stout strong man with his family; the reason given for their being kept at the camp being that there was no one to look after the children while the parents were at work.

Cuddapah District, March 30th.—*Booja road*, three miles from Cuddapah.—Inspected with Mr. Macarthy 800 people divided into 16 gangs, each composed of 20 men, 25 women, and 5 children. The women generally outnumber the men, who find other work. The people all belong to the surrounding villages. They are employed in digging and stacking gravel. The daily task assigned is 18 cubic yards for each gang, a more severe task than is imposed upon the labourers at the tank inspected yesterday. It is, however, exacted without difficulty. The rate of wage is the same as the other gangs in the district. The labourers are paid once a week on Sunday for the six days. A considerable proportion of the people in these gangs, as well as in those inspected yesterday, belong to castes who eat meat. The Wudas kill and eat sheep and pigs but

not bullocks. The pariahs eat carrion or the flesh of bullocks and other animals that have died. The shepherds eat the flesh of sheep and goats that die.

The general appearance of the people composing these gangs was good. A very large number of the men and women were as stout and healthy looking as they could be in the best of times. Here and there thin persons in weakly condition were observable, but their history did not prove their condition to be attributable to want of food.

Reduced
scale of
wages.
Report by
Dr. Towns-
end after
inspection
of people.

Gang No. 1. Two thin men but not unhealthy looking.

„ „ 2. One spare weakly looking man states that he has been so for years.

„ „ 3. Two thin feeble men state that they have always been so; one sickly child has had fever.

„ „ 4. All in good condition.

„ „ 5. One feeble looking man states that he has always been so.

„ „ 6. The same.

„ Nos. 7, 8, 9. All in good condition.

„ No. 10. An emaciated boy has been on the works a fortnight and has improved since he joined.

„ „ 11. A thin weedy lad always so.

„ „ 12. All in good condition.

„ „ 13. A feeble man has a large spleen; is better now than he has been for a long time. Another sickly looking man has lately suffered from fever.

„ Nos. 14, 15, 16. All in good condition.

These gangs have been established from November last.

Mr. Quinlass, the relief officer, says that when the people received higher rate of wages they did not spend more in food than they do now, but saved the difference. They have not deteriorated in condition since the wage has been reduced. About 15 men who had been sent to Nellore returned again to these gangs. They said the place did not agree with them; that the water was bad and gave them dysentery. The task-work at Nellore appears to be harder and the maistries more severe upon people transferred from other works.

There were 26 applicants for work. Only one man among them, and he was a ryot, who had lost all his cattle, and having no other source of maintenance came on the works. He was a strong healthy man. The rest, all women and children, were in good condition.

Vellore, March 31st.

1. Relief gangs employed in constructing an embankment along the Palaar River, 1,120 people divided into 8 gangs of 32, in the proportion of 7 men, 16 women, and 12 children. Some of these gangs were formed on the 15th of March; others on the 21st to 23rd, and some as late as the 29th.

These people are employed on task-work, the task being 75 per cent. of the ordinary public works rates. And they are paid at the following rate:—

Men, 1 anna 11 pie.

Women, 1 anna 5 pie.

Children, 1 anna. No allowance is given to young children.

Payment is made once a week; seven days' pay is given for six days' work.

A very large proportion of the men employed were old or elderly, and many of them were of spare habit, as is very commonly the case with the Natives above the middle age, but they were fairly muscular and their appearance healthy. The younger men were for the most part robust and in good condition. The same may be said of the women. Many of the older women were thin and spare and some of them weakly looking, but the younger women were for the most part plump and in good condition. The children on the whole had the appearance of being well nourished.

There were present about 400 applicants for employment on these works, chiefly women and children belonging to the town. Of late too, a large proportion of Mussulman women have come on the works, and this is considered a sign that the distress is spreading to classes that have not been hitherto touched by it. The general appearance of the new applicants, however, did not indicate that they have been insufficiently fed.

2. Gangs of coolies, chiefly women, employed in fencing the relief camp. These gangs had been established about six weeks, and had been on the reduced rate of—

1 anna 5 pie for men,

1 anna for women,

9 pie for children.

Reduced
scale of
wages.
Report by
Dr. Towns-
end after
inspection
of people.

They appeared to me to be in very fair condition, and there was no sickness among them.

3. *Relief Camp.—Hospital.*—Forty-one patients, chiefly old people suffering from diarrhœa and dysentery, and it is probable that the per-centage of mortality among them will be high. There are about 700 people fed in the relief camps, the proportion of men, women, and children being about equal. In many of them the effects of famine are very evident, particularly among a number of people who had come from the Kalhustri zemindari, but they are now improving.

Each adult male receives daily 1 lb. of dry rice cooked; 10 oz. of this is given about 10 o'clock, and the remainder in the evening. To the evening meal is added half an ounce of dāl mixed with vegetable and condiments in the form of curry.

4. *Sooriaghunta tank.*—1,600 people employed in excavation work divided into gangs consisting of 3 men and 35 women and children. The gangs were first formed on the 24th November, and from the 19th February up to the 25th March were on the reduced rate of wages, viz., men 1 anna 5 pie; women 1 anna 2 pie; children 9 pie. No allowance was given for children too young for work.

No work is done on Sunday, but the people receive pay for that day.

As a body these people were in fair condition, and as far I was able to ascertain they did not deteriorate or show signs of weakness during the five or six weeks that they were on the reduced rate of wages.

The small proportion of men on these works is attributable to the circumstance that in this part of the country agricultural operations and other means of employment are not suspended to the same extent as in the ceded districts, and the able-bodied men are for the most part employed in their usual occupations; but at the present price of food their earnings are not sufficient to maintain their families, and women, who in ordinary times would not undertake coolie labour, are on this account induced to come on works which are conveniently near their homes and earn additional means of subsistence.

No. 198.

No. 213.

Telegram, dated April 4, 1877.

From SIR RICHARD TEMPLE, Bangalore, to REVENUE ADDITIONAL SECRETARY, Simla.

Telegraphic
summary.

Have again visited Ceded Districts and investigated matters there. Relief labourers in Madras Presidency not increasing, numbers on charitable relief slowly rising, task-work still imperfectly exacted, professional agency not sufficiently employed. I have made specific suggestion for utilising engineering staff for remedying this defect. Bellary railway work beginning, efforts to send relief labourers to East Coast Canal not yet successful. Dr. Townsend, Sanitary Commissioner, Government of India, has inspected 29,000 relief labourers on reduced wages in Madras districts, and finds their condition good on the whole. I agree in his view. Showers have fallen in parts of Madras Presidency. Impression increasing that people show more power of sustaining themselves, and that stocks and stores of grain are more adequate than was originally anticipated. Favourable rain nearly two inches has fallen all over Mysore province, doing great good for water-supply, fodder, and agriculture. Prices at Bangalore cheaper in consequence, and population inspired. Grain supply in Mysore abundant. Relief works appear adequate in Mysore, and village relief generally sufficient.

No. 199.

No. 19 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Simla, April 5, 1877.

We replied briefly, by telegraph, on the 12th ultimo to your Lordship's telegram of the 6th idem, which requested us to obtain confidentially information as to facts alleged in a telegram, signed professedly by ryots of Sholapur and Poona, which had been received by your Lordship and others. A telegram in explanation of the facts was also sent to your Lordship on the 8th ultimo by the Government of Bombay.

Telegram from ryots of Sholapur and Poona. As to truth of facts alleged.

2. On reference to the Government of Bombay we learn that—

1st. Wages have not been reduced except on Civil agency works. Simultaneously with the reduction large works under Public Works Department were opened, on which old rates were maintained. These works are still available, and ready to take as many people as require relief and will work for their wages.

2nd. Wages on Public Works Department works 2 annas, will purchase 2 lbs. of grain while grain is dear, more when grain is cheap. Wages on Civil agency works will purchase $1\frac{1}{2}$ lbs. of grain, and so the Sabha's statement is incorrect.

3rd. Children under seven years of age whose parents are on relief works get 3 pies = 1 pice. This is an act of charity or grace on the part of Government, and is given even to infants. Children over seven years of age are employed on works, and draw regular wages according to the scale in force.

4th. Only one death is believed to have occurred from starvation.

5th. The Sarvajanic Sabha are interested in the question of remissions, as some of its members are the real owners of land in certain districts.

6th. They regret the transfer of Mr. Grant from Sholapur, as they have lost much influence by it and by the stricter system of relief which now prevails.

3. The Bombay Government report, on the subject of the authorship of the telegram, that "it was no doubt sent, as it purports to have been, by the Sarvajanic Sabha, a "political association or club, having its head-quarters in Poona and a branch at "Sholapur."

We have, &c.

(Signed) F. P. HAINES.
ALEX. J. ARBUTHNOT.

No. 200.

Revenue, No. 28.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, April 6, 1877.

Para. 1. I have considered in Council your letters of the 2nd and 9th February last, Nos. 7, 8, 9, and 10, Revenue, Famine.

Reply to Nos. 43. 44. 65. 66.

2. I have in other Despatches informed you that the Government highly approve of the measures which you have taken for the relief of distress in the Presidencies of Madras and Bombay, and have expressed their sense of the vigilance and sagacity which have marked your policy.

3. On the present occasion I propose to make some remarks upon the points in respect to which a difference of opinion has arisen between the Government of India and that of Bombay. The extent of this divergence appears to me to have been much overrated by the Government of Bombay, and in itself would hardly require any notice from me. But the emphasis which has been laid upon it by that Government makes some observations on my part necessary.

As to the difference of opinion between the Governments of India and Bombay.

4. The two points of presumed difference upon which the Bombay Government have laid stress are, the extent to which the obligation of giving relief should be accepted, and the mode in which relief labour can be most advantageously employed.

5. With respect to the first of these two points, I am unable to see the divergence to which the Bombay Government has called attention, and which, apparently, has embarrassed their decisions. I gather that these difficulties arise from seeking for an exactly defined rule, in a case where exact definition is impossible. Both your Government and that of Bombay concur in the wise and humane principle that human life shall not perish

As to the difference of opinion between the Governments of India and Bombay.

through want, when it is in the power of the State to preserve it. Both Governments are equally sensible of the necessity of guarding this rule from being wrested to the encouragement of indolence or of waste. It follows that the grievousness of destitution must be ascertained by labour tests, severe enough to deter from accepting relief all who can possibly obtain subsistence in any other way, yet not so hard as to repel those who are really starving. Special provision is requisite for the case of secluded women and of the infirm, and for the rarer cases where caste feeling makes gang labour inapplicable.

6. Any administrative rule may be damaged in argument by the suggestion of extreme cases for which it will not provide a solution. In the present instance, it is possible to ask, as the Bombay Government have done, what is to be done if you meet with a man whose love of life is so feeble, or whose dislike of exertion is so overpowering, that he had rather starve than work? Such a state of feeling cannot have been of long standing, as the subject of it must have long since died, at least if he belonged to the classes whom a few months of famine could reduce to a dependence on State aid. Of such singular exceptions, if they exist, it is only necessary to say, that they can be provided for by no rule, but must be left to the discretion of the officer who meets with them.

7. The other subject of discussion is of considerable importance, though the extent of the difference of view between your Government and that of Bombay has not in the end proved to be very large. The Government of Bombay were from an early period of opinion that the calamity should be treated as one of great magnitude, and that consequently relief works should be organised on a large scale. Proceeding on the assumption of a widespread famine, which events have unhappily justified, their policy was evidently sound. The most important argument in its favour is that effective supervision can be provided for one large work at far less cost than for many small works. The President in Council, however, upon the evidence before him, considered that the organisation of large relief works was premature, and was reluctant to sanction the commencement of undertakings which, except as famine works, the state of the finances would not justify the Government in completing. His objections were naturally fortified by the circumstance that the estimates furnished by the Government of Bombay for the works which they proposed were in some instances too imperfect to enable the Government of India to calculate the burden which their consent would throw upon the Treasury.

8. The Government of Bombay deserve great credit for the accuracy with which they foresaw the gravity of the calamity that was impending, and the energy of the measures which they took to meet it. At a greater distance from the localities where the distress was showing itself, the Government of India for some time were disposed to wait for more conclusive evidence, and in the meantime to be guided by the general principle that relief works ought to be proportionate to the distress they were intended to relieve, both in respect to duration and extent. When the evidence was more fully laid before them, the Government of India resolved to sanction a system of larger works, in view of the wider distress which it was necessary to relieve.

9. Large works admitting of the employment of a considerable number of men are more suitable for the relief of extensive calamities like the present, not only because they admit of a less costly supervision, but also because they furnish a more effective test of destitution than smaller local works. For a large work the greater number of those employed will have to move a considerable distance from their homes, and a necessity so unwelcome generally to the labouring classes in India offers a security that only those will submit to it who are forced to do so by the entire destitution of every other means of sustenance. A similar guarantee is not offered by the repair of village tanks, which are mostly accessible from the homes of those who are employed upon them.

10. In the selection of the larger works for the employment of the destitute population, it is undoubtedly desirable to prefer, where such a choice is possible, those which will be in some degree remunerative to the Treasury. I was therefore glad to learn that you had sanctioned the commencement of the earth-works of railways through the affected districts. The work, if completed as a railway, may not pay full interest upon the cost of its construction, but it will, from its first opening, contribute something towards that expenditure. A work, on the other hand, like a great road, though perhaps nearly or quite as advantageous to the inhabitants of the country through which it passes as the railway, will directly yield nothing towards defraying the yearly cost which its construction will entail upon the Exchequer. A very long period must elapse before its indirect effects will influence the revenue. Wherever, therefore, it is possible to do so, a directly remunerative work should be selected.

I have, &c.

(Signed) SALISBURY.

No. 201.

Revenue, No. 29.

From the SECRETARY OF STATE FOR INDIA IN COUNCIL to the GOVERNOR-GENERAL OF INDIA
IN COUNCIL.

India Office, London, 6th April 1877.

The Despatch of your Excellency in Council, dated 23rd February, No. 12 of 1877, forwarding further minutes and memoranda by Sir R. Temple relative to the famine in the Presidencies of Madras and Bombay has been considered by me in Council. Reply to No. 115.

2. The information contained in this Despatch and its enclosures has been, for the most part, anticipated by telegrams from your Excellency in Council. The minutes of Sir R. Temple are full of interest, and I have only to record that the intelligence to be gathered from the Despatch and its enclosures is, on the whole, more reassuring than could have been anticipated.

3. I fully concur in the praise bestowed by your Lordship in Council on the punctuality, care, and ability with which the tabular returns of the Bombay Presidency have been prepared, and I join with your Government in congratulating the Government of Bombay "on the manner in which the substantial safety of some five millions of people is being secured under circumstances of great danger."

I have the honour to be, &c.

(Signed) SALISBURY.

No. 202.

Telegram, dated 6th April 1877.

No. 213.

From SIR RICHARD TEMPLE, Bangalore, to REVENUE ADDITIONAL SECRETARY, Simla.

Doctor Townsend has inspected 34,000 relief labourers in distressed districts of Bombay and Madras; he has submitted a full minute. The final paragraph is as follows:— Taking the evidence that has come before me in the course of my tour, I can arrive at no other conclusion than that the rate to which the wage of the relief labourer was reduced on the recommendation of Sir Richard Temple is sufficient to support them in fair condition, provided that care is taken that the individual recipient is the only person who is supported on it, and I see no reason why the wage should be raised unless an equivalent amount of work is performed. I have laid Dr. Townsend's paper before Government, Madras, with expression of my full concurrence in Dr. Townsend's views. Copies have gone to you.

The reduced
scale of
wages.

No. 203.

XCII.—MINUTE by SIR RICHARD TEMPLE, explanatory of his reasons for recommending the Commencement of the Earth-work of the Conjeveram and Chingleput Railway Project. No. 221.

Bangalore, the 6th April 1877.

In memorandum No. XXVII., dated 30th January, were explained the reasons why I was then unable to recommend that the proposed railway from Chingleput to Conjeveram should be undertaken as a relief work. It was explained that the proportion of the cost that would be expended on relief wages was small, and that the financial prospects of the proposed line did not seem very good. The Conje-
veram and
Chingleput
Railway pro-
ject.

2. Since that memorandum was submitted the Government of India have been pleased to sanction my proposal that the earth-work of the Bellary and Hubli line should be begun as a relief work, without the Government being pledged to complete the line; which case establishes the principle that in a dearth of large projects for employment of relief labour the earth-work of any such project may be commenced, even though the Government may not be able at present to complete the scheme.

Further I have seen in the Madras Presidency that there is great need for large works, on which a large number of relief labourers can be concentrated under adequate professional supervision. My minutes dated the 18th and 29th March set forth the great advantages to be obtained by placing relief works under professional supervision. In Chingleput and North Arcot districts there was special need for professionally supervised works. So long, therefore, as the Government of India was not committed to the completion of the proposed line, I considered that it might be better to employ relief labourers

The Conje-
veram and
Chingleput
Railway pro-
ject.

under engineering control on a work that might hereafter be useful, than to leave them all on the scattered Civil works, whereon little real labour was exacted, and over which there was practically no adequate supervision.

3. Under these circumstances it seems to me that the conditions under which the Chingleput and Conjeveram Railway project presents itself have altered. I have now, therefore, recommended that, subject to the restriction above mentioned, the earth-work on the proposed Conjeveram and Chingleput Railway should be begun as a relief work, whether the line be subsequently completed or not. And that recommendation the Government of India has been pleased to approve.

No. 204.

Nos. 205.
221.

XCIII.—MINUTE by SIR RICHARD TEMPLE regarding the emigration of people from the Mysore Province to the relief institutions in Madras districts.

Bangalore, 6th April 1877.

Migration
from Mysore
to Madras
districts.

I have, while at Bangalore, investigated the facts regarding the emigration of people from the Mysore Province to the relief works and relief houses in British districts of the Madras Presidency. At one time there were some, perhaps many, thousands of Mysore people on the relief works in the Bellary and Cuddapah districts; and there were large bodies of Mysore labourers in the coffee districts of the Wynaad. Immigrant labourers from Mysore do indeed flock yearly to the coffee districts, and do much useful work there. This year, by reason of the scarcity, double the usual number emigrated to the Wynaad, and as the coffee crop was short there was less than the usual quantity of work to be done.

2. In my minute No. XXXVII., dated 16th February, I expressed my opinion that the distressed people of Mysore could be relieved by the Mysore Government which had made adequate provision to that end, and I advised that such people should, after receiving temporary relief, be sent back under proper arrangements to their homes.

3. If there were still at this time any considerable number of Mysore people receiving or needing relief in British districts, then I should advise that the Chief Commissioner's offer to depute an officer, who would take over such refugees, should at once be accepted. For there is no reason why the British Treasury should be burdened with the support of distressed persons from neighbouring States, which are both able and willing to relieve their own people.

4. But, as matters now stand, there seems no present need for action. The Wynaad coolie question is settling itself, for the Collector reports that the Mysore emigrants are returning to their homes. It is probable that while they were in the Wynaad they had earnings or other means of supporting themselves at least until they could recross the Mysore frontier.

5. In Bellary and Cuddapah the numbers of Mysoreans appears comparatively trifling. On the borders between provinces like Bellary and Mysore there will always be some interchange of population in times like this; and the Commissioner of the Nundidroog division recently learnt that several hundreds of British subjects from the Pennekonda division had come to the relief centres in Kolar and Bangalore, having fled from their home by reason of the cholera which was then raging.

6. Although there is no present need for action, yet, if hereafter there should be any large gathering of Mysore people on relief works, or at relief centres, I consider that early intimation should be given to the local officers in Mysore, so that the Mysore authorities might promptly take over and relieve their own people, as indeed they are very ready and able to do.

No. 205.

No. 221.

XCIV.—MEMORANDUM by MR. BERNARD, respecting Mysore people in the Madras distressed districts.

Bangalore, 2nd April 1877.

Migration
from Mysore
to Madras
districts.

The case now stands on this wise :—

Mysore declined to pay the charges which Madras might incur in relieving Mysore immigrants either by relief wages or otherwise. But Mysore offered to send and fetch back her people. Accordingly an Assistant Commissioner was sent from Kolar to Pennekonda to fetch back Mysore people who might be on the Bellary works. But

none were found in Pennekonda, and only 35 in the other taluks. So the Assistant Commissioner came back empty.

2. It was about Pennekonda that the question first arose. Subsequently Madras represented that Mysore people were surging over into Coimbatore; and specially that large numbers* of people, who had gone to the Wynaad for employment on the coffee estates, were now practically on the hands of the Madras Government, for there was no coffee labour to be had, and the people seemed disinclined to go back to Mysore. The

correspondence between the Collector and the planters shows that there is much want of roads in the Wynaad, and the present is considered a favourable opportunity of getting these roads made. The Madras Government inquired whether Mysore would contribute one-third the cost of these roads, on the ground that Mysore poor would be employed thereon and sustained thereby. Mysore declined the offer, because she too had plenty of good relief works waiting to be done, and on which in some places workpeople would not come. At the same time Mysore repeated the expression of her readiness to send and fetch her people home.

3. Madras has now replied asking that Mysore would at once send officers to fetch back her people from the Wynaad, Coimbatore, Bellary, and Cuddapah, and has begged that Mysore will take steps to prevent her people immigrating into Madras country for the future.

4. The Chief Commissioner of Mysore is now ready to send officers and will do so. The largest number of his tenants are said to be in the Wynaad; he has works close to the border to employ them, and he has relief houses along the road whereat the returning emigrants can be fed as they come along. But he anticipates that many of them will be quite unwilling to come back, if they can get easy, highly paid, work in the Wynaad. He foresees too that there will be difficulty, and there may be loss to the coffee interest if emigration from Mysore into the Wynaad is permanently checked or restricted. The Chief Commissioner has suggested that the Wynaad authorities should decide which Mysore people ought to be sent back home, and which should be kept.

Bangalore, 2nd April 1877.

Bangalore, 6th April 1877.

P.S.—After the foregoing paragraphs were written telegrams were sent by Sir Richard Temple's order to the Collectors of Malabar, Bellary, and Cuddapah, asking for an estimate of the number of Mysoreans needing relief in the Wynaad, in Bellary, and in Cuddapah. The Collector of Malabar replied that "no Mysore people in Wynaad now need relief. They are returning already to Mysore, and all say they intend returning, as crops and prospects have improved at home." The Collector of Bellary replied that he estimated "the Mysoreans on relief works and receiving gratuitous relief at not more than a few hundreds." The Collector of Cuddapah replied that he could "form no estimate," as he had "no data."

No. 206.

XCV.—MINUTE by SIR RICHARD TEMPLE on the present condition of relief affairs in Mysore.

Nos. 207.
221.

Bangalore, 6th April 1877.

I have again inquired into the state of relief affairs in the Mysore Province. I find that the total numbers on relief are now 116,000, equal to about 2 per cent. of the total population of Mysore, or about $3\frac{1}{4}$ per cent. of the population of its distressed tracts. An unusually large number of Mysore people had emigrated to the coffee districts, and though they are now coming back, yet for some months they obtained subsistence by working on the plantations. When the failure of season, which is now going on for the third year consecutively, is remembered, these numbers appear very moderate, and show, firstly, that the people must be in good condition and must have some self-sustaining power; and secondly, that the authorities are administering relief very carefully and economically.

2. The results of relief administration in Mysore still compare favourably with the neighbouring districts of the Madras Presidency, namely, the ceded districts and Kurnool, even after all the economy and reduction which have been introduced into those districts.

3. The labourers on the relief works are all employed on piece-work at rates somewhat cheaper than the piece-work rates of the Public Works Department in ordinary years.

U u 3

Migration from Mysore to Madras districts.

Condition of relief in Mysore favourable.

Condition of
relief in
Mysore.

They can earn in this way enough to support themselves, and they are in fairly good physical condition. Their earnings on piece-work are estimated to amount to 2 annas per diem for adult men. The people who receive gratuitous relief at the relief centres, also do a certain amount of light work. From the helpless poor, who are relieved at their villages through the agency of the patels (village headmen), no work of any kind is exacted.

4. I am still of the opinion expressed in my minute, dated the 14th February, that the Government of India and the Chief Commissioner may be satisfied with the progress of relief affairs in the Province of Mysore. Already favourable rain has (1st April) fallen over the whole province; prices have fallen, and the people are taking courage.

No. 207.

No. 221.

XCVI.—MEMORANDUM by MR. BERNARD on the present condition of relief affairs in Mysore.

Bangalore, 6th April 1877.

Since Sir Richard Temple was in Mysore last, the following changes have occurred in the relief operations and their results :—

- (1.) The distressed districts are much the same as before stated, except that severe distress has declared itself in the northern taluks of the Mysore district.
- (2.) The number of labourers on the relief works has increased somewhat, and so also have the numbers on charitable relief, thus :—

Name of District.	Total Number on Relief Works.		Number on charitable Relief.		Total on all Relief.	
	In January.	On 15th March.	January.	15th March.	January.	15th March.
Bangalore - - -	13,000	18,200	11,500	10,300	24,500	28,500
Municipality - - -	—	1,000	—	6,200	—	7,200
Kolar - - - - -	8,500	8,700	3,700	4,200	12,200	12,900
Tumkur - - - - -	8,900	10,600	2,100	18,200	11,000	28,800
Mysore - - - - -	5,500	9,800	3,700	1,900	9,200	11,700
Municipality - - -	—	200	—	1,600	—	1,800
Hassan - - - - -	9,700	7,100	4,200	1,400	13,900	8,500
Shimoga - - - - -	1,200	3,200	1,500	300	2,700	3,500
Kadoor - - - - -	6,300	3,000	1,400	800	7,700	3,800
Chittaldroog - - -	6,000	7,800	1,800	1,800	7,800	9,600
Total - - - - -	59,100	69,600	29,900	46,700	89,000	116,300

- (3.) Some of the increase is said to be due to the efficient village relief that is now being carried out. The Moonsiffs and Civil Court establishments are now employed on relief work, now that their ordinary business is so slack. For each distressed taluk a sufficient relief staff has been appointed; villages are really visited, and patels (village headmen) are kept up to their duty by responsible officers, whose weekly diaries show what is being done, and how useful the village relief is.

- (4.) Ample number of relief works are open and ready to be open in every district of the province.

- (5.) The importations of grain by railway into the Mysore Province has gone on increasing; they averaged 330 tons a day in January; they were 530 tons a day during the last week of March. Since the rain of Sunday (1st April) prices are cheaper, and importations have somewhat slackened. Of this total only about 30 tons a day as yet comes by the Negapatam route.

2. The Mysore Government issues every Monday a short progress report with tables showing the progress of relief operations during the week. These reports contain all necessary information as to the condition of the people and as to the relief operations.

3. I may note that Colonel Christie, Superintending Engineer of Irrigation, has recently been on tour in Chittaldroog. He tells me that he saw no emaciated people save in the relief kitchens, that the physical condition of the people on the relief works is good, and that in some cases his officers were unable to get labour for tank repairs which they wanted to carry out.

No. 208.

XCVII.—MINUTE by SIR RICHARD TEMPLE regarding the advisability of undertaking the earth-work of three short branch railways to Arcot, Vellore, and Salem as relief works. No. 221.

Bangalore, 6th April 1877.

The Government of India have asked my opinion on the suggestion that relief labour should be employed on the earth-work of three short branch railways, which have been projected to the towns of—

Arcot -	-	-	-	-	population 11,000
Vellore	-	-	-	-	„ 38,000
Salem -	-	-	-	-	„ 50,000

Arcot, Vellore, and Salem railways; commencement not recommended.

The Madras Railway line passes by each of these towns at a distance of from three to five miles. The Commission which reported on the traffic of the Madras Railway in 1875 recommended that these three branch lines should be undertaken in order to draw traffic to the railway. If the railway were now being aligned, there would be no doubt that it should be taken to Salem and Vellore, for Salem is the largest town south of Madras which this line serves; while Vellore is a great, if not the chief, trading mart between Madras and Trichinopoly. But the question now is whether it is advisable to undertake the earth-work of these branch lines as relief works.

2. I have not been able to see any detailed estimates for these lines. The Madras Government estimate the cost of the three at approximately 20 lakhs of rupees; and consider them not to be so well adapted for relief work as the Conjeveram and Chingleput line. I have traversed the lines which these three branch railways would probably take. On each of them the banks would, save perhaps at the Palar bridge approaches, be very light, and the great items of cost on the Vellore and Arcot branches would be the bridging of the Palar; for I understand that the existing narrow road bridge near Vellore would not suffice for a standard gauge railway.

3. I understand from Captain Bisset that, in default of detailed estimates, the earth-work and ballast on these branches could not be estimated at more than about Rs. 50,000 in all. This amounts to $2\frac{1}{2}$ per cent. on the total cost of the line; it is doubtful whether the work could (failing previous detailed surveys) be begun before the first week in May. And if good rains fall in May, it is most probable that relief labour would not suffice to finish even the banks and ballast. I fear that it would not be practicable to organise large gangs of skilled relief labourers (such as stone cutters of the Waddah caste) for employment on these lines, in time enough to do any considerable quantity of work before the rainy season begins.

4. Under these circumstances, however anxious I may be to find some public work on which relief labourers can be properly tasked, I hardly see how to recommend that these branch lines be undertaken as relief works. In regard to the general question whether the branch lines would pay, I attach weight to the view expressed in Mr. Elvin's dissent at page 18 of the Commission's report. And I think much inquiry should be made before the Government decide to add 200,000% to the guaranteed capital of a railway which does not pay, in order to construct branch lines which also may not pay. If any of these branch lines could be undertaken by private enterprise, as suggested by Mr. Elvin, then perhaps Government might see fit to grant some aid to the projectors of such branch railways.

No. 209.

From DR. CORNISH, the Sanitary Commissioner for Madras, to the CHIEF SECRETARY TO GOVERNMENT, Public Department, Fort St. George. Nos. 218. 245.

Madras, 6th April 1877.

I have the honour to acknowledge the receipt of two minutes dated respectively the 7th and 14th March 1877, by the Honourable Sir Richard Temple, Bt., K.C.S.I., in reference to my objections to the subsistence allowance of relief coolies being calculated on the basis of 1 lb. of grain a day, and to submit herewith for the consideration of the Madras Government a memorandum in further elucidation of the subject.

2. The Government of India, while giving every publicity to the "minutes" above referred to in the official Gazette of India has not thought proper to give a like publicity to my letter No. 115 of 13th February to overthrow the arguments of which these minutes were especially designed.

3. The subject involved is the sufficiency or otherwise of an arbitrary allowance of food to maintain the health and strength of the labouring poor. It is a practical question of the highest interest to men of science, political economists, and social reformers in

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every part of the world, and in the interests of humanity generally I venture to express a hope that the fullest publicity be given to my own part in the discussion, as well as to Sir Richard Temple's, so that the public, and scientific men in particular, may have the subject of discussion before them.

A REPLY TO SIR RICHARD TEMPLE'S MINUTES of the 7th and 14th March as to the Sufficiency of a Pound of Grain as the basis of Famine Wages.

In a letter addressed to the Madras Government, dated 13th February 1877, No. 115, I felt it my duty to protest against a suggestion made by Sir R. Temple in his minute dated 10th January, that 16 ounces of cereal grain per diem would suffice for the maintenance of a labouring adult in health and strength.

Sir Richard Temple thought that the sufficiency or insufficiency of this grant of food was a matter of "opinion," and recommended that a scale of payment, based on the price of a pound of grain, should be tried "as an experiment" in the various relief operations throughout this Presidency, and the Madras Government had already acceded to the proposition, and issued orders for the enforcement of a reduced scale of wages, before I was aware that the subject had been before the Government. Under these circumstances there was a choice of courses before me. I might have beld my peace, and in the event of subsequent calamity have sheltered myself under the plea that the Madras Government had not done me the honour of seeking my advice before sanctioning the reduced scale of wages; or knowing from long and painful experience the risks to the population resulting from inadequate food and nourishment, and the general want of accurate knowledge of subjects by most people, I might have ventured unsolicited to sound a note of warning to the Government, and to state my opinion in terms admitting of no misunderstanding. I chose the latter course, and I am very glad that I did so, as my letter has drawn forth two elaborate minutes from Sir Richard Temple regarding the basis on which he calculated that a pound of grain a day would suffice for a labouring man, and the subject can now be discussed purely on its merits by scientific men and the public at large, quite irrespective of the official positions of the parties contributing to the solution of the problem of feeding a people with the least expenditure of life and money.

I have, of course, been an attentive reader of famine literature, to which Sir Richard Temple has been so large and valuable a contributor. His most masterly "Narrative on the Famine in Bengal and Behar in 1874" lays down with clearness and precision the data on which the importation of grain was then determined, and I need not say that I agree almost entirely with every word Sir Richard Temple then wrote in regard to the quantity and quality of the food supplies necessary for the maintenance of the health of the people of Bengal.

The only error I find, in fact, is one of an arithmetical, and not of a physiological character. Sir Richard Temple based his calculations on $1\frac{1}{2}$ lbs. of grain per head being required for a certain period for a certain proportion of the population, whereas $1\frac{1}{2}$ lbs. ought to have been taken for an adult, and half the quantity for each child under 10 years of age. The error was, of course, one on the right and humane side, but involved the provision of more than 100,000 tons of grain beyond what was necessary according to accepted physiological data.

Even so late as January 1877, in a minute written at Sholapur in Bombay, Sir Richard Temple accepted, without question, the fact that the relief wages in Bombay were calculated on the basis of $1\frac{1}{2}$ lbs. of grain per diem for an adult. It was only on his arrival in the Bellary district of the Madras Presidency that he appears to have undergone a conversion to the "pound a day" theory; but Sir Richard has not explained in the minute dated 13th January (to a portion of which I took exception) the grounds of his sudden change of opinion, and as his views in 1874 and 1877 appear to me to be irreconcilable, I can only quote them here in parallel columns, in the hope that some attempt may be made to explain them.

Sir R. Temple in 1874.

(Bengal Famine.)

"This rate ($\frac{3}{4}$ of a seer or about $1\frac{1}{2}$ lbs. per head for men, women, and children) at which grain should be provided was assumed after due consideration and discussion. The lowest diet provided in Bengal jails for non-labouring prisoners

Sir R. Temple in 1877.

(Madras Famine.)

"The present rate of wages is fixed at 2 annas per diem for an adult and proportionately lower for women and children. This rate is fixed upon the supposition that it will purchase $1\frac{1}{2}$ lbs. of grain per diem, a quantity which is deemed essential for a man while at

is equal to about 1 seer or 2 lbs. The ordinary diet of a labouring adult in Bengal is taken after statistical inquiry to be 1 seer of rice besides $\frac{1}{4}$ seer (about $\frac{1}{2}$ lb.) of fish, pulse, pepper, or other condiments. The diet prescribed for adult Bengalee emigrants on ship-board and for Bengalee sailors always exceeds 1 seer a day in total weight, and in some cases it reaches 2 seers a day. Many of the poor people for whom grain was to be provided would be labouring hard on relief works during inclement and exhausting weather. Nearly the whole of the Government provision of grain consisted of rice, which contains less strength-giving qualities than wheat and some other grains. It was known that each bag of the expected consignments of Burma rice would contain from 8 to 20 per cent. of innutritious husk. In view of all these considerations, I framed my estimates of total requirements on the basis that each person to be relieved would on the average require $\frac{3}{4}$ of a seer ($1\frac{1}{2}$ lbs. of grain) a day. In practice it was found that even to ordinary paupers, who did not do any work, local Committees had to give $\frac{2}{3}$ of a seer of rice daily besides one pie ($\frac{3}{8}$ of a penny) for the purchase of salt and condiments; to women in delicate health and to persons reduced by previous hunger a still larger daily dole had to be allowed.

Being responsible for the general character of these estimates, I feel bound to record my tribute to the utility of the census which had been carried out two years previously under Sir George Campbell—the first regular census which had ever been taken in Bengal. If the success of the prescribed plan of relief operations has in any degree depended on the framing of estimates, if these estimates have in any degree enabled the Government to make a proper forecast of the supplies, and the resources necessary to encounter the crisis, then it is to be remembered that these estimates could never have been framed had not that census existed."

work. There might indeed be a question whether life cannot be sustained with 1 lb. of grain per diem; and whether Government is bound to do more than sustain life. This is a matter of opinion, and I myself think that 1 lb. per diem might be sufficient to sustain life, and that the experiment ought to be tried. Possibly the gangs might not perceptibly fall off in condition. After a week or fortnight's experience it would be seen whether they so fall off, or not; if they were to seriously fall off, then the point could be considered."

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(11.) "The objection to the new scale, which Dr. Cornish states in detail is properly formulated by the phrase a full day's wages (that is, something more than the 1 lb. and the $\frac{1}{2}$ anna) for a fair day's work. But the phrase postulates that there is a fair day's work, which is just what the vast majority of the relief labourers do not render. Therefore they are not entitled to, and do not physically need, the full day's wage."

(14.) * * "The scale laid down appears to me to be on the whole sufficient to yield the people that subsistence which alone Government can afford. We would gladly give more if it were in our power, but we must content ourselves with saving life, and cannot pretend to prevent all forms of distress."

(16.) "Having carefully inspected during my tour in this Presidency thousands of relief labourers, I give it as my opinion that with very few exceptions, which are not, as a rule, traceable to insufficient relief wages, the general physical condition of the labourers is as good now as in ordinary years."

(17.) "In conclusion it is not possible, I submit, to determine, *à priori*, on scientific data, what amount of food is necessary to sustain the particular classes who come to our relief. The real point to be considered is whether in ordinary times they get more than 1 lb. a day for a male adult. This is an economic question which can be determined by calculating the rates of wages in the rural districts, not the wages of trained professional labourers employed by public bodies—not the wages of stalwart men of the professional class of workmen, but the men of lesser physique and lighter frame such as that of the village poor—but the wages received by the labouring poor in the villages of the interior; and then by taking the prices of common grains in ordinary years. Now from inquiries made in various districts of the Madras Presidency, I apprehend that the labouring poor in rural localities can hardly get more than 1 lb. a day for a male adult in ordinary times."

In his minute of the 7th March 1877, Sir Richard Temple declines to enter into the "purely professional arguments" advanced in my letter, further than to note "that

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" while no doubt abstract scientific theories of great value on the subject of public health
" are of modern growth, the Indian population with which we are now dealing have
" lived for centuries in disregard of them." I must confess that I am not quite clear as
to the meaning of the above extract. I did not put forward any "abstract scientific
theory," but merely stated a *fact*, that as the human frame, in every race and climate,
disposes of a certain amount of nitrogenous matter every 24 hours, a like amount must
be taken into the body in food to restore that waste, otherwise the tissues of the body
will gradually disappear, and that in my opinion 1 lb. of rice containing from 68 to 80
grains of nitrogen and a small money payment of six pice or three farthings, would not
suffice to enable a labourer to provide a sufficiency of nitrogenous food to restore his
daily expenditure of tissue. In reply I am told, in effect, that abstract scientific
theories are very pretty in their way, but that the Indian people who disregard them
manage to get on very well without them. But this manner of disposing of the subject
does not seem to have satisfied Sir Richard Temple, for in a subsequent "minute" dated
14th March, he endeavours to grapple with the scientific objections to his proposals.

I think, however, in dealing with this double reply, it will be more convenient if I
discuss the practical objections of the first minute here, leaving the scientific arguments
of the second minute for the conclusion.

Sir Richard Temple objects in the first place that my data refer to the case of
Europeans, and that owing to the greater size and weight of the white-skinned races, the
quantities of food necessary for Natives of India cannot be decided by European
experience. I am very sorry if I failed to make myself clear on this point, because in
paragraph 5 of my letter I expressly alluded to an important statistical inquiry under-
taken in *India* in the year 1863 regarding the nature and quality of the food of the
various classes of the people of *India*. I took an active part in this inquiry as regards
the Madras Presidency. I drew up the instructions for the medical officers who made
the investigations in the various districts, and I compiled the report in which the
observations were submitted to Government and the Secretary of State for India. I not
only did all this as regards the collection of facts from the Madras Presidency, but for
many months I made a collection of the various food grains, experimented with them
practically in my own person, as to the methods of preparing and cooking them, and
their digestibility, and I further learned by questioning all sorts and conditions of men
the average quantity of food they were in the habit of using. I did all this under a
conviction that the statistical inquiry ordered by the Secretary of State was one of vast
importance, and I took unusual trouble to attain accuracy based on actual investigation,
because I was convinced that the heavy mortality in our jails was in a great measure
due to bad and unscientific feeding, and that the only chance of improving the existing
jail diets lay in putting the evidence so clearly before Government that the deductions
would be irresistible.

But this investigation was not confined to the Madras Presidency. A similar inquiry
was made, so far as I can remember, by every Administration in India, and the results are
no doubt available for Sir Richard Temple's guidance, though in regard to many of the
provinces I never heard of the results having been published. I imagine that the
"statistical inquiry" alluded to by Sir Richard Temple in his "Narrative," and in
which the quantity of grain per adult is said to be from one to two seers per diem,
must be the one made in Bengal in 1863. I think it is much to be regretted that papers
of this kind were not at the time collected and published as a standard authority on food
supplies and Indian dietaries. There may perhaps be copies of my official reports in the
Government Offices, or in the India Office, but I do not myself possess a single copy. My
paper on "food and prison dietaries" published in Vol. VIII., pp. 1-73 of the "Madras
Medical Journal," embodies all the facts collected in reference to the nature and variety
of food supplies and the quantity of grain habitually used by the people of Southern
India.

It is not easy, therefore, to account for the mistake that my remarks had reference to
the dietaries of Europeans, when I was at special pains to point out that an independent
investigation conducted by some 20 or 30 medical officers in the Mofussil Civil stations,
and checked by my own independent inquiries and observations, showed that the mini-
mum grain allowance of a man in health and in work was not less than 24 ounces, and
that it was frequently double that quantity in favourable seasons.

Moreover, in regard to the proportion of nitrogenous to non-nitrogenous food, the
reference I made to Sir Robert Christison's labours was simply to show the standard to
which all successful dietaries should approach, and I expressly admitted that in the
food of an Indian people, the "proportions of one to three are but barely attained, and
" the tendency is always to a smaller proportion of nitrogenous food " (paragraph 4).

I referred moreover to the experience of Indian jails (paragraph 8) in which practical food experiments on many thousands of persons have been going on for a long series of years under very strict tests as to supervision and observation, with the view of showing that the food of a people was a more complex question than that of providing a certain quantity of grain.

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The whole experience I wished to bring forward on this question of food and health was Indian experience, and I am surprised that Sir Richard Temple, who knew so well in 1874 what the ordinary food of the people was, should write as if there had never existed any periodical medical literature in India, or that he should ignore the fact that every Indian medical authority who has written on the subject of food for prisoners is opposed to his recent opinions. One might think from Sir Richard Temple's minute that men like Leith, Chevers, Ewart, Bedford, Strong, Mouat, Fawcus, Irving, Forbes, Watson, Mayer, Lyons, myself, and many others, whose papers I have not immediately at hand to refer to, had never thought out the subject of feeding in its practical and scientific aspects, and that jail and other diets in India had been constructed without reference to the nutritious quality of the food-grains, or to the proportions of the various kinds of food. It must be abundantly clear to the Government that, if this new theory of Sir Richard Temple is correct, viz., that 1 lb. of grain and a small money payment equivalent to three farthings is enough to keep a man in health and strength while undergoing a fair daily task, then every Administration in India has been for years past inciting people to break the law by providing criminals with a dietary beyond their actual necessities, and all the carefully recorded experience of the last 30 years, as to the effects of food on health in Indian jails, must be discarded as worthless.

I shall have occasion to show, however, that the carefully built up experience of the past must be our guide in this matter, in preference to the mere "opinion" of a gentleman who apparently unconscious of the cruelty involved in his proposals, would desire to begin a huge "experiment" on the starving poor of this country, at a time and under conditions which would prevent the results of that "experiment" ever being tested and recorded.

What in fact was the proposition of Sir Richard Temple's to which I took exception? It was this: "There might indeed be a question whether life cannot be sustained with 1 lb. of grain per diem, and whether Government is bound to do more than sustain life. This is a matter of opinion, and I think that 1 lb. per diem might be sufficient to sustain life, and that the experiment ought to be tried. Perhaps the gangs might not perceptibly fall off in condition. After a week or fortnight of experience, it would be seen whether they so fall off or not."

If it were not so serious a matter as a blind experimentation on the limits of human endurance, it would be amusing to note the method by which Sir Richard Temple here proposes to test the results. "After a week or fortnight of experience" he says "it would be seen whether the gangs fall off perceptibly in condition." Now what are the conditions abroad in the country by which such an experiment could be subjected to those rigorous tests which would satisfy practical men, as well as scientific men? Our relief works are scattered over many thousands of square miles of country, they are but indifferently supervised, and in no instances are the Native supervisors qualified to test the results of any special system of feeding or payment as regards the health of the people. To record the results of such an experiment with the accuracy required, it would be essential to weigh every individual of a gang, to enter their names and weights in columns, and to repeat the weighing week by week for a period of several months, to note also the condition of each individual, week by week, as to anæmia, pulse, tongue, heart's action, muscular power, &c. An "experiment" of this nature might be carried out as regards a few persons under the constant observation of a medical man, aided by careful assistants, but it is obvious that the results on a large scale according to the tests proposed by Sir Richard Temple could never be ascertained. Sir Richard Temple does not seem to be aware of the fact that "a week or two" of low living, while doing much mischief, might still give no results measurable by the eye or by weighing.

There is nothing more remarkable in connexion with these famine relief works than the sudden changes and fluctuations in the "personal" of gangs. The people inspected one day may be away the next. The people falling ill and unable to work are replaced by others, and there is never any certainty that two inspecting officers going over the same ground, within a short interval of time are seeing the same people. Any comparison of their observations or reports therefore can scarcely be gone into profitably, while this uncertainty exists in regard to the identity of the individuals composing the gangs.

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There is, however, a rough and coarse test of the results of the reduction of wages which may commend itself to the notice of Government. It is that while the numbers paid for, and supposed to be employed on, relief works in the first week of February were 907,316, they fell in the last week of March to 662,195, and that the numbers "too weak for work, requiring cooked food in relief houses," had increased from 38,163 in the first week of March to 99,113 in the last week of the same month. From my recent inspection in Maddanapully and Royachoti, I found these helpless and infirm people were increasing at the rate of more than 100 a day at each relief house, they continue so to increase, as I think it but too probable, the numbers to be fed in the Cuddapah district will probably reach 20,000 within the next two months, instead of 3,294 as in the last week of March. I leave it for others to determine whether the policy of substituting a bare subsistence wage on relief works has, or has not, contributed to the enormous increase of the sick and feeble, and of the gratuitous feeding throughout the distressed districts.

Sir Richard Temple is of opinion that the task-work required of coolies who are paid on the lower scale is very nearly equivalent to a condition of rest, and that the scale of food necessary for persons in a state of idleness will very well suit those who only execute light work.

The condition of the labouring gangs varies very much in the several localities. Some have very little distance to go to their labour, and in such cases the collection of half a cubic yard of road material may not involve any unusual exertion. But even in these cases I have seen work attempted when the ground was as hard as iron, and with tools much too heavy for the strength of those who had to wield them, and officials of the Public Works Department have told me that in their contract rates, no coolies would ever think of attempting work of this kind, except when the ground had been softened by rain. In such cases the bodily wear and tear of moving half a cubic yard of material, or executing 50 per cent. of a Department Public Works task, is considerable, and especially in the case of weakly gangs.

I have seen moreover very wretched and enfeebled creatures in the gangs who have come distances of four, six, and even eight miles to their work, some of them dragging their children to and fro with them, and I have no hesitation in stating that when these walking distances and carrying weights are taken into account with the day's work, that the expenditure of force is far ahead of its replenishment in the shape of food wages.

Sir Richard Temple states that his lowest scale of wages will permit in most instances of men buying $1\frac{1}{2}$ lbs. of grain in addition to condiments and some other nourishment, but, however, this may be the case in the Bellary district or in certain stations on the line of railway which I have not yet inspected, it is not so in the upland taluks of North Arcot and Cuddapah. At Goorumkonda the other day the bazaar price of rice was only 13 lbs. the rupee, and at Royachoti about 14 lbs., so that 1 anna would not purchase even a pound of grain.

The mode of calculating the wages of the coolies too in some districts has practically the effect of reducing the earnings of men from 1 anna 6 pie to 1 anna 5 pie or 1 anna 4 pie, and what with deductions for short work, and the "customary tribute" to the gangsmen, there is reason to fear that in a very large proportion of cases the labourers do not get anything like the whole of the reduced wage.

Sir Richard Temple has, however, made a most important concession to the famine labourers in consequence of my protest, and if no other good has resulted, I feel bound to thank him for the consideration given to the last paragraph of my letter, in which I pointed out that a man must *eat*, even if we give him no *work* on Sundays, and that a subsistence wage ought not to be shared with young children. Practically, there is now very little difference between Sir Richard Temple's wage rate and my own recommendations. I have contended, and given reasons for considering, that the basis of a pound of grain for a labouring man was unsafe, especially when that wage was paid only for six days in the week, and when helpless children had to share in the food. Sir Richard Temple admits the weakness of this portion of his scheme, and by conceding additional help to feed the young, has of point in fact yielded all that I felt justified in urging.

According to my observation, though the ordinary wage rate of 2 annas, 1-6 and 1 anna, for men, women, and children respectively, may in some districts be too little to procure a sufficiency of nourishing food to keep up health, yet in times like these the people are ready enough to work for wages cheerfully and with a good heart, getting payment for and doing work only on six days in the week. Whatever deficiencies in their food there may be, they supplement in their own fashion by using articles that, though not in general use, may help at a pinch to sustain life, such as the seeds of the

bamboo, tamarind, &c., the pith of the aloe plant, and certain jungle leaves like the *Sethia Indica*.

The actual wage receipts of a family of man, wife, and four children, on the old and amended new scale of wages is given below :—

Ordinary Scale.

			Rs.	A.	P.
Man -	-	- 6 days at 2 annas	0	12	2
Woman -	-	- „ 1½ „	0	9	0
Two children -	-	- „ 1 „	0	12	0
Two children under 7 years of age	-	-	—	—	—
Total per week			2	1	0

Sir Richard Temple's Amended Scale.

Man -	-	- 7 days at 1½ annas	0	10	6
Woman -	-	- „ 1¼ „	0	8	9
Two children -	-	- „ ¾ „	0	10	6
Two children below 7 years, relief grant	-	- „ ¼ „	0	3	6
Total per week			2	1	3

From this comparison it will be seen that in the case of a man with a family of four children, two of whom are workers and two non-workers, he is actually better off by 3 pie per week under Sir Richard Temple's modified reduced wage than he was when working six days in the week for ordinary wages. Mr. West, C.E., in charge of the Cheyar Embankment Works, informs me that to meet the views of the district authorities and to avoid the appearance of competition in the labour market, he has reduced his rates from the ordinary 2 annas to the modified scale of Sir Richard Temple's, and paid for the Sundays, and that practically his disbursements per head average just the same as before.

The great financial saving therefore of over so many lakhs of rupees is not likely to accrue from the introduction of the new scale of wage. It has given intense dissatisfaction to the labouring people, who could not, or would not, comprehend its terms; it has opened the door for abuses of various kinds, and it has not tended to economy in disbursements.

In some gangs near Cuddapah the other day I saw several women labourers encumbered by three or four children under age, who had been brought to secure the pittance granted under the recent modification of the rules. These children are of course much exposed all day, and distract the mother's attention from her work. The present system can be good neither for the mother nor the children, nor is it economical to the Government, according to the experience of Mr. West, who has tried both systems, and according to the typical case I have given.

Sir Richard Temple asks if I will admit that a pound of grain a day is sufficient to maintain an adult Native of India in a "state of rest." In reply, I have to state that I do not know of any cereal grain which would give a sufficiency of albuminous matter in a pound weight to replace the daily waste of nitrogen from the adult Native body, and consequently I am unable to admit any such proposition. The "evidence" adduced by Sir Richard Temple in regard to this matter is in reality no evidence at all. Sir Richard says that in the Vellore relief camp Dr. Fox and Captain Harris were agreed that men had so improved on 1 lb. of grain; but when I came to inquire into this matter I found that the "evidence" rested on general impressions, and not on periodical weighing and individual record of weight from time to time.

Even in the "weight test" some caution is necessary, for many of the people who come into camps appear to be filling out and fattening, when in reality they are getting dropsical and in a fair way to die. I can easily understand that the people in the Vellore camp did better on 1 lb. of grain per diem than they did on 12 ounces, which was the scale in use until a few weeks ago, when Dr. Fox urged an increase.

I have thought it safer and more prudent in this matter to fall back on our experience in dieting non-labouring prisoners, and to recommend 20 ounces or 1¼ lbs. of cereal grain besides dhall, vegetables, condiments, &c. for adults fed in relief camps, and this allowance is now sanctioned by Government, and should be, I think, a minimum allowance, considering how much tissue these poor creatures have to repair before they can be brought into a state to do a day's work.

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The reduced
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In a paper recently brought to my notice by Surgeon-General G. Smith, I find that at Nellore, Surgeon-Major A. M. Ross has been weighing coolies on relief works, and that their average weight is below that of average "under trial" prisoners in jail. Thus—

<i>In Jail.</i>		
Men.	Women.	Children.
109·1 lbs.	92·3 lbs.	70 lbs.
<i>Relief Works.</i>		
94·3 lbs.	77·6 lbs.	46 lbs.

These weights appear to indicate much wasting, but the weighings will be continued and reported on from week to week.

In the last paragraph of his minute of the 7th March, Sir Richard Temple states his belief that the labouring poor in Madras in rural localities can hardly get more than 1 lb. of grain a day for a male adult in ordinary times. The inquiries on which this belief is founded were made, I apprehend, by Sir Richard Temple himself in the course of his rapid journeys through the country.

But I would submit to any impartial person whether inquiries made in this way to satisfy a foregone conclusion can be compared in value with the careful statistical inquiry undertaken calmly and deliberately in the years 1862 and 1863, and which inquiry furnished the basis for all our subsequent arrangements in the dieting of the people under circumstances where they cannot have any voice in the choice of their own food. Most people in India are acquainted with the sort of answers a high official personage will get in reply to leading questions, and if Sir Richard Temple thinks he has got at the truth in this matter, I can assure him, after a close practical study of the food of the people of Southern India for the last 15 years, that he is utterly and entirely mistaken, and that so far from the labouring adults living upon a pound a day, they eat on the average nearly double.

The following is what I wrote on this subject 15 years ago. With my great opportunities of inquiry in regard to the civil population, jails, hospitals, soldiers' rations, &c., during the past 15 years, I have nothing to add or alter.

"A free labourer, if he has the means, will use from 32 to 40 ounces of cereal grain (cholum, cumboo, ragi, or rice), about 2 or 3 ounces of dhal, a similar quantity of meat, or fish, and fruits or vegetables in addition.

"From numerous personal inquiries I should be inclined to reckon the average consumption of cereal grain per diem of an adult labouring man is rather under than above 30 ounces.

"The greater variety of food and its more liberal use by the free population depends very much upon the means of the individual, as well as upon the supply of food in the district. In times of famine and drought, after repeated failure of crops, the quantities of grain given as the probable daily consumption of a healthy man would be very much reduced, and in such seasons the jail diet would be superior to that of the greater number of the labouring poor. This is still too often the case. In years of scarcity grain robberies and petty thefts are very prevalent, and many of these offences are committed with the express object of securing the jail rations as a remedy against starvation. At such times the want of due nourishment is painfully evident in the attenuated bodies of the poor. Many die from the immediate effects of starvation, while the great bulk of those who live to struggle against famine have the vital powers so reduced that they are predisposed to suffer from the ravages of cholera and fever. The connexion between famine and pestilence, the following of the latter in the wake of the former, has received many a practical illustration in the 'records of Indian history within the present century.'—(*Cornish on Food and Prison Dietaries, Madras Medical Journal, Vol. VIII., page 83.*)

I now come to the consideration of Sir Richard Temple's second minute of the 14th March, in which he enters upon the scientific questions involved in my objections to his diet scale.

In this minute Sir Richard Temple observes, paragraph 6:—"The opinion that one pound a day of grain might suffice for a relief labourer, together with some allowance for condiments and the like, or some nutritious substance, was not indeed based on scientific theory. It was founded rather on probabilities practically deduced from the condition of the poorer classes in ordinary times, and on the results of general experience."

I think it would have been more to the point if Sir Richard Temple had given something a little more precise than the vague term "general experience." I may ask, in return, whose experience? Not Sir Richard Temple's, surely; for in 1874 he assures us that the people in Bengal habitually use from 1 to 2 seers of grain (2 to 4 lbs.) per adult, and that even the people in relief houses, doing no work, got $\frac{2}{3}$ of a seer ($1\frac{1}{2}$ lbs.). Sir Richard Temple records nothing of his travels in Bombay showing that the people on relief works there lived on a pound of grain a day. It was only on his arrival in the Bellary district that he evolved this strange doctrine, that a Madrassese could do what the people in no other part of India can,—thrive on 16 ozs. of cereal grain a day.

I know of no other "general experience" bearing on this question and favourable to Sir Richard Temple's view. Sir Richard Temple appears to consider Sir Robert Christison's opinion to be entitled to a respectful hearing, and I may therefore be allowed to make a further quotation from that venerable and accomplished author's remarks on the diet of the British soldier during the Crimean war.

"Experience has shown that the most successful dietaries for bodies of men, deduced from practical observation, contain carboniferous nitrogenous food in the proportion of about three of the former to one of the latter by weight. During 22 years that my attention has been turned to the present subject, not a single exception has occurred to me.

"Hence it is obvious that the least weight of food in the rough state will be required, first, when there is the least moisture and cellulose tissue in it, and, secondly, when the carboniferous and nitrogenous principles are nearest the proportion of three to one.

"Of the various nutritive principles belonging to each set, some may replace one another; some are better than others; some are probably essential.

"Two things, however, are certain, that nitrogenous may replace carboniferous food for supporting respiration, though at a great loss, but that carboniferous food (without nitrogen) *cannot replace nitrogenous food for repairing textural waste.*

"Dietaries are never to be estimated by the rough weight of their constituents, without distinct reference to the real nutriment in them as determined by physiological and chemical inquiry."

Keeping these principles in view, and with the help of a simple table it is not difficult to fix the dietary advisable for any body of men, according to their occupation. It is also, in general, easy to detect the source of error in unsuccessful dietaries. For example, any scientific person conversant with the present subject could have foretold as a certain consequence sooner or later of their dietary, that the British troops would have fallen into the calamitous state of health which befel them during their last winter in the Crimea.*

Remarks of this nature, from so eminent an authority as Sir R. Christison, ought to make unskilled constructors of dietaries in famine times somewhat modest in respect to their knowledge. It should make them especially cautious in the enunciation of new and strange doctrines, such as "that the amount of nitrogen required by Natives must be much less than that required by Europeans" (paragraph II. of minute).

This is really the crucial test of the whole question, and I am afraid it cannot be definitely settled on the *ipse dixit* of Sir Richard Temple. In the scientific world we are accustomed to ask that any one bringing forward a new theory shall state the facts on which his theory is based; and in this case it would be quite fair to ask Sir Richard Temple whether by himself, or with professional aid, he has endeavoured to test his theory by estimating and measuring the amount of nitrogen which Natives of ordinary size and weight eliminate from their bodies. The investigation is one of, by no means, a difficult character, and no one has any right to bring forward such a theory in proof of the sufficiency of a scale of food without first ascertaining, by repeated investigation and experiment, that the nitrogen excreted by Natives is proportionately less than in Europeans. The consequences of our accepting such a theory, without the clearest and plainest proof, might be most disastrous, and the *onus probandi* remains with the originator of the theory.

I almost wish, in regard to Sir Richard Temple's reputation as a gentleman of many and varied accomplishments, that he had spared me the difficulty of dealing with his "crucial tests" in paragraphs 11 and 12, as regards the alleged discrepancies in theory and practice as to the amount of nitrogen necessary to a successful dietary. It is not a pleasant thing for one in my position to point out errors of comprehension on Sir Richard Temple's part; but however painful the operation, it must be done. Sir Richard Temple quotes from the *Madras Manual of Hygiene*, a work of admitted excellence, by

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* Observations on a report by Sir J. McNeill, relative to rations for soldiers.

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Surgeon-Major H. King, M.B., the composition of a scale of rations allowed to Native soldiers on foreign service. He points out very truly that these rations while yielding an abundance of carboniferous food (32 ounces of rice), are very defective in nitrogenous principles, the whole weight of food in fact yielding only 178 grains of nitrogen per diem. "According to this theory," observes Sir Richard Temple, "the Madras sepoy would be undergoing starvation at the hands of the Government. But, in fact, he is not so reduced physically, nor does he fail the Government when it calls upon him for exertion. This case, I submit, makes very strongly against Dr. Cornish's theory."

I have no excuse to make for this dietary of our Native soldiers on foreign service. I gave it up 15 years ago, and recorded my opinion of it in the following terms:—

"The deficiency of animal food in the diet, and the excess of carboniferous material, is undoubtedly a fertile source of the prevalence of sickness in Native troops on foreign service. The mortality of Madras troops on this diet in Burma is more than double what occurs in Indian stations, where they find their own food."*

The foreign service "ration" in fact is a "survival" from the time of the first Burmese war. It was framed in times long before sanitary commissioners or chemists learned in food composition existed; and at the present time it is no more to be regarded as a typical "diet" than are the buttons on the backs of our dress coats to be regarded as a device for supporting a sword-belt. The ration is simply an "aid" to the soldiers employed in a foreign country, and the men are put under no stoppages whatever on account of it, but draw the full pay of their rank, just as if they had to find every particle of food out of their pay. If the relief coolies in whose behalf I have protested had seven or nine rupees a month in addition to the pound of grain, I should have made no objections to the insufficiency of their rations.

The Government expect, in these settled times, with the Burmese markets well supplied with poultry, eggs, fish, and flesh, that the sepoy can buy his nitrogenous food for himself, and practically he does so to such an extent that of late years the troops stationed in Burma have been almost as healthy as when in Southern India.

But there are and have been exceptions. I need not go back to the very terrible mortality of Native troops from bowel complaints in the first and second Burmese wars. These things are matters of history, but no later than the year 1872 a detachment of Native troops was sent from Burma to occupy posts on the Arracan River in co-operation with the Lushai Expedition.

In this locality the men had no market at hand in which to buy animal food, and in attempting to live on their "rations," they sickened and died in large numbers. The proportions are given in the margin.

Strength	-	184	
Hospital admissions	-	901	
Deaths	-	27, 12 from "dropsy," 5 "debility."	
Ratios of Sick to Strength			
per Mille.			Deaths.
4896·7			146·7

In this case, and in all others demanding active service away from markets of supply, the Native soldier on foreign service *does*, in

fact, "fail to do what the Government want of him," and simply because his "rations" are unfitted of themselves to support his health and strength. The fact is acknowledged and admitted by every officer who has commanded in Burma, and I did not at all overstate the case 15 years ago when I reported to Government as follows:—

"I have not entered into the question as to the propriety of revising the ration list of sepoys on foreign service, or of effecting changes in civil hospital diets, or of the sufficiency of the food laid down by law for emigrants from British India to the Colonies, all of which dietaries are unscientific in composition, and there need be little hesitation in stating, unfitted to support life. The whole of these dietaries require revision."†

Then again the "rations" of the European soldier do not, as Sir Richard Temple supposes, constitute his whole food.

Every commanding officer knows that the British soldier habitually buys extra meat from the bazaar out of his ample pay, and there is no regiment in the country which has not a provision shop of its own in which anything, from a Yarmouth bloater to a truffled sausage, may be bought. The rations on the whole are very fairly adapted for the British soldier, although there is no doubt that he eats more meat than the quantity contained in the ration.

In the calculation of the component parts of this dietary in the Madras Manual of Hygiene, I see that the nutritive value of the 1 lb. of vegetables has been put down as if all the vegetables were of the cabbage or soft kind, "whereas potatoes form usually one half of the vegetable ration of the soldier."

* Madras Medical Journal, Volume VIII., page 30.

† Madras Medical Journal, Food and Prison Dietaries, Volume VIII., page 56.

No calculation, moreover, has been made of the nutritive value of the malt liquor or spirit he consumes.

The proportions of albuminous to carboniferous food in the official ration are about one to four.

Sir Richard Temple has made a mistake as to soldiers "in garrison" receiving a "reduced diet."

They do nothing of the kind, but European soldiers "in prison" do receive, when sentenced for short periods, a punitive diet which has no bearing whatever on the question of the insufficiency of albuminous food in a pound of grain to keep an adult Native in health.

I must confess that I was a little staggered by Sir Richard Temple's quotation of the scale of food allowed to "European soldiers on board ship." I was travelling at the time of receiving the minute, and away from all books of reference, so that I could not verify the composition of the diet, as given in the *Madras Manual of Hygiene*, but I knew that this diet had been framed under the advice of scientific men, and that it was not likely to err in the direction of giving too little nitrogenous food, and I was quite satisfied that some error had crept into the calculations, and that Sir Richard Temple had pitched upon this "crucial instance" without thought of the possible inaccuracy of the figures.

The explanation of the calculated quantity of nitrogen in this diet being only 155 grains per day is very simple. The diets which are valued in the appendix to the *Madras Manual of Hygiene* are all taken from the Madras Medical Code. The quantities of this particular diet will be found in the Code, page 133, Vol. II. The transcriber instead of entering 4 lbs. or 64 oz. "fresh bread" for a week's ration, has made the mistake of entering 4 oz., and, as a consequence, all the calculations of albuminous and carboniferous food are below the actual truth.

There is also another error. The calculator of the nutritive values has assumed that "salt meat" contains less albumen than fresh, and has put down a less proportion of nitrogen for the salt meat; but this is not really the case, though in salt meat the albuminous matter may be less easily digested. The effect of salting meat is to harden the albuminous tissues, and to cause the watery juices of the meat to enter the brine; consequently salt meat has more albumen in a given weight than fresh, or preserved, meat.

On the whole, I consider the ship-board dietary of the European soldier, containing as it does, according to my calculation, from 200 to 240 grains of nitrogen per diem, very well suited for a class of people who have nothing whatever to do.

Sir Richard Temple says the British soldier is not reduced by a diet containing 155 grains of nitrogen, and the answer to this statement is that the British soldier is never put on any such diet, and that the figures on which Sir Richard Temple rest his "crucial instance" are wholly wrong, partly from a clerical error of the transcriber and partly from the mistake in estimating the albuminous matter in the salt meat of the ship-board ration.

It follows, therefore, that all Sir Richard Temple's surmises on the hypothesis that 155 grains of nitrogen is enough for a British soldier fall to the ground, and this part of the question need scarcely be noticed further.

I feel bound, however, to protest against the line of argument advanced by Sir Richard Temple that, as the British soldier only needs so much nitrogenous food, the Native of India can do with two-thirds of that amount or less. We have no grounds whatever for admitting so dangerous a theory, and all our practical experience tells just the other way.

In the *Indian Annals of Medical Science*, Vol. III., 1855, Mr. Strong gives some very remarkable tables showing the influence of a change of diet in the Alipore jail. A Magistrate in charge *thought* that the prisoners were being too well treated, and so abandoned a scale of food, which had been sanctioned by the Medical Board, and which had kept the prisoners in health, for a dietary of his own devising. The change consisted chiefly in knocking off the meat, reducing the grain allowance, and obliging the prisoners to consume what they had in a single meal. The result of this amateur tampering with the food of the people was an increase in mortality from an average of 42.4 per thousand to 117.5 per thousand in the three years during which the "experiment" was in force. The constituents of this dietary gave about 19 parts of carboniferous food to 1½ of nitrogenous!

The late Mr. Bedford of the Bengal Medical Service records a similar increase of mortality dependent on a change of food in the Rajshaye jail in 1852-53. In this case several months elapsed before the bowel sickness began to appear, but the result was a trebling of the annual mortality.

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The effect of improving the standard of diets in the Madras jails in 1867, so as to raise the amount of albuminous food equal to from 200 to 240 grains of nitrogen per diem, has been to diminish the mean annual death-rate from 107 to about 22 per thousand for the eight years in which the new dietaries have been in force.*

This ought to be fairly convincing testimony, but there is more behind. A few years ago, a jail superintendent, who had been admonished by Government for over much flogging, was requested to adopt some other mode of punishment, and the punishment book showed, in the course of a few months, some hundreds of entries to this effect: "Half rations until he completes his task." The result was great increase of sickness and mortality from the diseases such as now fill our famine camps, viz., sloughing ulcers, bowel complaints, dropsy, and impoverished blood. On discontinuing the food punishment the mortality began slowly to subside to its normal proportions. So close is the connexion in fact between a sufficiency of nitrogenous food and health of the prisoners, that I never now hear of an increase of bowel disorders and dropsies in a jail, without at once suspecting tampering with the food, or privation in the district furnishing prisoners. In talking the matter over with the Inspector-General of Prisons, I find that he has arrived at precisely the same conclusion. After the Bengal famine I see it noted that the rate of mortality in the Julpigori jail was 27 per cent. chiefly from "bowel complaints." In Rungpore 17.6 per cent. In Gya, Tirhoot, and Chumparun the mortality was 17, 10, and 15 per cent. respectively. "Dysentery was the most fatal disease." The precis-writer who compiles the sanitary statistics of the India Office does not appear to have had a notion of the connexion of the undue jail mortality with the famine, but notes that a "special report has been called for" to explain it.† Reading between the lines I can at once tell him that it was a mortality from starvation diseases.

With all these facts before me I think myself quite justified in having given early warning of the danger of reducing wages to the basis of 1 lb. of cereal grain a day, even admitting that my remonstrance was, as Sir Richard Temple states, "strongly worded." It saves time to state in plain terms one's actual meaning, and my meaning was quite evident when I showed that Sir Richard Temple's proposals were out of harmony with the experience of the Bengal famine, and with our actual knowledge of the effects of insufficient food.

There remains yet one more point to be noticed with reference to differences of opinion in regard to the present condition of the labouring poor. On this point Sir Richard Temple states:—"Having carefully inspected during my tour in this presidency thousands of relief labourers, I give it as my opinion that with very few exceptions, which are not as a rule traceable to insufficient wages, the general physical condition of the labourers is as good now as in ordinary years."

This is Sir Richard Temple's opinion, but not mine. I too have seen a considerable number of relief labourers, and have taken some pains to find out where the distress really is, and my experience is this, that if I want to see the darkest side of the famine picture, I must look for it elsewhere than amongst the ranks of those who have still strength enough left them to work. Consequently I make a point of examining, wherever I can, the condition of the people fed in relief houses, lungerkhanas, and by private charity. I try to ascertain the condition of the poor who frequent the public bazaars and markets; and I pay special attention to the condition of the old and the young, whom I find almost invariably to be the earliest victims to distress. It is in this respect probably that my estimate of the effects of the famine on the health of the lower classes differs so widely from Sir Richard Temple's. My view is briefly this, that the famine is pressing with peculiar severity upon certain sections of the labouring classes who average from 20 to 30 per cent. of the population of the several districts, that amongst these classes there has been already a very large mortality, primarily due to bad and insufficient feeding, and that the condition of the survivors is in many cases critical in the extreme, as shown by the rapidly increasing proportion of persons who are unfit to work, and who have to be fed entirely at Government expense to keep the feeble vitality they have from being altogether extinguished.

Immediately the condition of a people becomes so low that they cannot work, the question of saving life becomes enormously complicated, and in plain language the time has then passed by when Government relief can do more than attempt to rescue a few possessed of the strongest constitutions. What has been our experience in this respect in the Madras relief camps, and in the camps now being established throughout the

* See paper—"Sanitary Improvements in Indian Jails." Transactions, Social Science Association for 1875.

† Report of Sanitary Measures in India, Volume VIII., page 10.

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Even these figures, which we know to be under the truth, show an appalling mortality in the famine districts during December and January. I have no reason to suppose that the state of things here indicated has much improved in February and March. But in our municipal towns, or in some of them at least within the famine area, death registration is more efficiently managed, and the following figures will tend to show the gravity of famine, as exemplified in an abnormal death-rate. In Bellary I have long had reason to suppose that the registration was not properly done, and the returns of some of the Bellary municipalities are obviously imperfect. The first thing that attracted my attention in connexion with the famine, on returning to duty in the end of January, was the abnormal death-rate amongst certain classes and certain localities of the presidency town, and I lost no time in drawing the attention of Government to the condition of the people, and suggesting measures for combating the great destruction of life then going on. While the mortality of the presidency town was exaggerated by the influx of starving immigrants, the experience of other municipalities shows that throughout the famine tract the death rate has risen out of all proportion to its normal condition.

MORTALITY in the MUNICIPALITIES of the FAMINE DISTRICTS.

Municipal Towns.	Ma- dras.	Conje- veram.	Nel- lore.	Vel- lore.	Walla- japet.	Kur- nool.	Cudda- pah.	Bellary.	Adoni.	Gooty.	Anan- tapur.	
Population - - - -	397,552	37,327	29,929	38,022	12,103	25,579	16,225	51,766	22,723	6,730	4,918	
Registered deaths.												
Average of 5 years ending 1875 - {	December -	1,211	65	53	84	41	71	50	77	69	9	7
	January -	1,260	65	37	81	30	73	55	57	47	10	8
	February -	1,100	65	38	80	26	60	40	53	51	9	4
Present season - {	1876, December	2,034	96	127	89	48	376	83	192	446	127	11
	1877, January -	4,059	367	169	146	66	147	82	114	180	24	9
	„ February -	4,401	87	288	215	41	171	92	127	278	6	27
Ratio per 1,000 of Population per Annum.												
Average of 5 years (3 months) -	35.9	20.8	17.1	28.4	32.0	31.9	35.6	14.4	29.3	16.9	15.4	
Present season (3 months) -	105.5	58.5	78.06	47.3	51.2	108.5	63.1	33.4	159.1	93.3	38.2	

The famine so far has already fallen very heavily on the old, the weakly constituted, and young children. It is still “weeding out” from our labouring classes a large number of victims, and in consideration of the fact that diseased conditions dependent on sufficient food *follow many months after the cause has passed away*, I apprehend that a heavy and unusual mortality will continue even after the period of drought and dearth of food has ended.

The survivors of the famine will be the strongest and best fitted of their race to continue the species, and when plenty again blesses the land they will produce a vigorous race of descendants; but I think there can be no reasonable doubt that this food deficiency has fallen very heavily upon the ordinary agricultural labouring poor, and that many years must elapse before they will have made up the numbers who have fallen, and are still falling, victims to the combined famine and pestilence now in our midst. I have in former reports called attention to the fact that the children born of famine-stricken mothers are nothing but skin and bone. My recent experience goes to show that the birth-rate is seriously diminishing, and that pregnancy amongst the distressed women is becoming a rare condition.

It is on these grounds that I cannot subscribe to the pleasing and hopeful telegrams in which Sir Richard Temple summarises the weekly progress of events for the benefit of the Home Government and the English people. There are two sides to every picture. Sir Richard Temple, like a skilful general commanding in battle, naturally fixes his attention on the main points of attack and defence, and so long as these are safe, his main work is accomplished.

I on the other hand as a public health official, whose special duty it is to preserve life, am bound to listen to the cries of the wounded, and to note in what way the combatants suffer, and I should be wanting in my duty to myself, and to the Government I serve, if I failed to state the facts coming to my knowledge, and the deduction drawn from those facts.

No. 210.

No. 172, dated Bangalore, 7th April 1877.

No. 221.

From the SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY TO THE
GOVERNMENT OF INDIA.

By direction of Sir Richard Temple, I have the honour to submit copy of the paper marginally noted, regarding the supply of grain from Central India to the northern districts of Madras.

Memorandum by Captain Bisset on his visit to Bombay and the Nagpore district of the Great Indian Peninsula Railway.

2. From Captain Bisset's narrative Sir Richard Temple learns that there is no reason to anticipate failure of the grain supplies from Nagpore and the Berars; that much of the grain from those quarters is at present despatched to Bombay, probably for shipment to the western ports; and that an increase in the despatches to the Deccan and to the ceded districts of Madras will occur as soon as a change in prices shows the need for a larger supply.

No. 193.
Grain supply
from Central
India to
Madras.

3. I am to express Sir Richard Temple's satisfaction with the promised provision of Great Indian Peninsula waggons to expedite the movement of grain to the south. He anticipates that, with the facilities thus given, the supplies to the chief grain markets of the ceded districts will be fully equal to the demands from the interior.

No. 211.

EXTRACT from a LETTER from the ACTING SECRETARY TO GREAT INDIAN PENINSULA RAILWAY COMPANY to the CONSULTING ENGINEER FOR RAILWAYS, No. 4,245, dated 7th April 1877.

Nos. 250.
256.

The following extract from the "Times of India" for the 7th March, giving extracts from the proceedings at a meeting of the Port Trustees, held in Bombay on the 1st March 1877, has reference to the statement that the dealers at Cawnpore were encouraged to send traffic to Howrah rather than to Bombay, viz. :—

Traffic
arrange-
ments of
East Indian
Railway
detrimental
to grain
traffic.

Submitted report by Traffic Manager, dated 6th February, on his visit to Delhi, Cawnpore, Lucknow, and other places, made in order to draw additional grain traffic to the Port Trust sidings. * * * The report having been circulated to the Trustees, it was further suggested by some of them that the Traffic Manager's statement that Calcutta merchants get waggons for their goods on the East Indian line more easily than Bombay merchants, should be communicated to the Chamber of Commerce.

I have no doubt that the East Indian have had many difficulties to contend with in dealing with the unusual and sudden increase of traffic on their line, but in the interest not only of the Great Indian Peninsula Railway, but also of the public, I have felt it only right to protest against the stoppage of through booking.

* * * * *

In continuation of the letter above quoted, Mr. Conder, under date 6th instant, writes to the Acting Agent as follows :—

"With reference to paragraph 7 of my letter, No. 1,047, of the 4th instant, I have since that letter was written received a letter of the same date from Mr. Lang, of Messrs. Finlay, Scott, and Company, in which the following statement is made, being an extract from a letter dated the 2nd April, written by Mr. Fernly, the agent of that firm at Jubbulpore, namely,—

"Both Mr. Batchelor and Mr. Carter gave me distinctly to understand that they would never put themselves out to furnish vehicles for Bombay from stations like Kutni, the distance, 56 miles, before reaching the Great Indian Peninsula, 56 miles being too small to benefit their line much."

"I have again to lay my plan before you of sending goods to Calcutta. From Sutna to Calcutta I could send 10,000 bags away in a month easily. At present I have considerable stock there. The gates are closed and likely to be for some time as far as Great Indian Peninsula traffic is concerned."

I think these statements show that the East Indian are encouraging traffic for Calcutta rather than dealing with all traffic in the strictly impartial way which is claimed for them, or at least mentioned as being maintained by them, in Lieutenant Scott's note to which the letter quoted above is a reply.

And they involve serious loss to this Company by diversion of traffic.

No. 212.

No. 221. XCVIII.—MINUTE by SIR RICHARD TEMPLE on the administration of relief works by Public Works Department officers in the Salem district, dated Salem, the 10th April 1877.

Administration of relief work in Salem district by Public Works Department.

In my minute dated the 29th March I invited the consideration of the Madras Government to the desirability of employing in the Bellary and Kurnool districts a certain proportion of the relief labourers on works supervised and directed by Public Works Department officers, who could exact from the labourers adequate tasks. And I indicated certain works on which this plan might at once be tried.

2. On revisiting the Salem district, I find that the procedure which I recommended for Bellary and Kurnool had already been adopted in Salem. Out of the 47,000 relief labourers in the district of Salem, about 25,000 are employed on 398 large and small works under the Public Works Department. Most of these works are irrigation tanks, which must be repaired sooner or later, and on which much excellent work will have been done this year. The labourers are employed on piece-works, at a rate of 2 annas per cubic yard, as compared with $1\frac{3}{4}$ annas which is paid in ordinary years. Mr. Norfor, Range officer, finds that on some of his works the people earned at these rates—

In the month of February.			In the month of March.		
0	2	2	for each adult man	-	0 1 10
0	1	4	for each woman	-	0 1 2
0	0	9	for each child	-	0 0 8

3. The Engineer officers do not seem to have succeeded in opening so many works in the more distressed taluk of Dharampooree as elsewhere. All labourers are admitted to the Public Works Department undertakings, who are willing to work at the present rates; and no inquiry is made as to the applicants being in absolute need. Relief labourers moreover are not, save in the case of about 6,000 labourers on works in December last, handed over by the Civil officers to the Engineering officers, as recommended should be done in Bellary and Kurnool. But there is apparently no reason to fear that relief is being given unnecessarily on the Engineers' works; for the officers in charge report that the condition of the labourers is generally poor when they come on the works. And there is no risk of the Civil and Engineering officers competing with each other for labour, as no Civil relief works are opened in the neighbourhoods served by the works under Engineering supervision.

4. I lay this account of Salem relief works before the Madras Government, because the system, which works well in Salem, would succeed in Bellary and Kurnool, where professionally supervised works are most urgently required.

No. 213.

No. 20 of 1877.

No. 264.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the SECRETARY OF STATE FOR INDIA.

Simla, the 12th April 1877.

Owing to the pressure of legislative business in the week before last, and the movement of the Government to this place during last week, we have been unable during the last fortnight to send to your Lordship the usual weekly Despatch regarding the famine in the Presidencies of Madras and Bombay. We have, however, kept you informed by telegraph of the principal facts which have come under our notice during the period in question.

2. We now enclose copies of minutes recorded by Sir Richard Temple on the following subjects :—

- No. 176. 1st. The present condition of relief operations in Kurnool.
- No. 178. 2nd. The expediency of repairing the Begum Talao, a tank near the ruined city of Beejapoor in the Kaládgi district of the Bombay Presidency.
- Nos. 182-6. 3rd. The recent course and present state of relief operations in the Bombay Presidency, as ascertained on the occasion of Sir Richard Temple's late visit to that Presidency.
- No. 187. 4th. The physical condition of the gangs inspected by Sir Richard Temple in the districts of Sholapur, Kaládgi, Poona, and Ahmednagar.

5th. The question of suspending, instead of wholly remitting, the demand for land No. 191.
revenue on unirrigated land in the distressed districts of the Madras
Presidency with reference to an observation contained in Sir Richard Temple's
minute of the 6th March on this subject.

6th. The expediency of further utilising the agency of the Department of Public No. 192.
Works in exacting task-work from the relief labourers employed in the dis-
tressed districts of the Madras Presidency.

3. Copies of the following papers are also enclosed :—

A letter from Mr. Bernard, Secretary to Sir Richard Temple, regarding a mis- Nos. 130.
apprehension which appears to have been entertained with reference to the views 160. 173.
of the Collector of the Chingleput district on the subject of remissions of land 189.
revenue.

A memorandum by Dr. Harvey, lately employed as medical officer on Sir Richard No. 188.
Temple's staff, on the physical condition of the people in the distressed districts
of the Madras and Bombay Presidencies.

Two telegrams from Sir Richard Temple, dated the 4th and 6th instant, already Nos. 198.
embodied in the weekly telegraphic summaries. 202.

4. The improvement which has taken place in the management of the relief operations
in the district of Kurnool is satisfactory, but that district still contrasts unfavourably,
both as to the number on the relief works, and as to the number of persons charitably
relieved by the State, with the somewhat similarly circumstanced district of Sholapur.

5. We desire to draw your Lordship's attention to the observations contained in Sir
Richard Temple's minute of the 24th ultimo, on the relief operations in the Bombay
Presidency, and to the results which have followed from the closing of large numbers
of village works and the enforcement of task-work on the larger public works under
professional supervision. Between the 12th January and the 20th March the number of
relief labourers had, owing to these measures, been reduced from 331,447 to 209,000.
The mode in which this reduction was effected is set forth in the following paragraphs
of the minute in question, which also contains an explanation of the circumstances
under which the strike occurred, which attracted a good deal of public attention some
weeks ago :—

Relief opera-
tions in
Bombay
Presidency.

"Although the tendency of our measures has been to transfer large numbers to the
public works, still even on these works there has actually been a decrease. This has
arisen from the enforcement of the task-work previously ordered. Many persons came
to work on task so long as they found it easy, but absented themselves when they found
it becoming harder. On the Civil works the manner in which the reduction of numbers
occurred was in this wise. The Public Works Department (including its general branch
and its special irrigation branch) has been strongly organised with a staff of officers and
of trained subordinates in the distressed districts. Professional preparations for public
works on a sufficiently large scale, consisting partly of main roads, but chiefly of irriga-
tion reservoirs (tanks), were got ready. To these all applicants (save and except those who
appeared to be able to sustain themselves, for a time at least, without Government aid)
were admitted. To these also all the labourers who had previously been on village
works were drafted, except those who from age, infirmity, or other good cause were
unable to go. The able-bodied were informed that they could no longer be employed
on the village works; but that employment was available for them on the larger public
works; to every person some such work at a reasonable distance was indicated; he was
also informed, however, that in event of his refusing this offer he would not be otherwise
employed. Very many did in fact refuse, and by so doing virtually discharged them-
selves from Government relief, thereby affording proof that they were not in real distress
and could afford to stay away. Many, however, accepted the offer and are still serving
on the public works, proving by their industry and discipline that they really need the
support thus obtained.

"The number who discharged themselves from Government relief in the manner
above described were about 102,000.* They did, indeed,
at first show signs of some method and system in their
proceedings. They liked the village works with a lax
system from which they had been discharged. They disliked the public works with a
strict system to which it was proposed to transfer them. They imagined that by throw-
ing themselves suddenly out of employ, they virtually offered a passive resistance to the
orders of Government. Many of them endured more or less of inconvenience and
privation in furtherance of a plan whereby they hoped ultimately to regain their position
on the easy-going village works. For so favourable an object they deemed that some
suffering might be borne. They counted somewhat on exciting the compassion of the

* i.e., difference between 136,000 on 12th
January and 34,000 on 12th March as
above stated.

Relief operations in
Bombay
Presidency.

authorities, and still more on arousing fears lest some accidents to human life should occur. They wandered about in bands and crowds seeking for sympathy. They probably did meet with sympathy, indirectly at least, in various quarters. They certainly had leaders both from among their own body and from among the employés, whose vocation had ceased from the contraction or cessation of the village works. Moreover, the village headmen (patels) are, as a class, much opposed to any system of relief works which takes the people away from their homes. This feeling may be natural on their part, but it cannot receive attention when it militates against so important a principle as the application of a definite test to a relief system in time of famine.

"The Local Government, however, did not yield, though it did report the matter to the Government of India, apparently with a view to strengthening the position by eliciting further authoritative declarations. The Government of India, on two occasions, declared in effect that undue concessions must not be made to combinations of workpeople formed with sinister or self-interested objects; and that, although Government was bound to do its utmost to save people from death by starvation, it could not always undertake to save them from death owing to their own obstinacy or misconduct. These views have doubtless helped to guide the thoughts of the people, and to subdue any unreasonable hopes which may have been engendered.

"Of those who thus deserted the relief works some returned to labour when they found resistance unavailing. But many, after wandering about for a short time, settled quietly in their own villages, where they still are (as I have myself seen them in several places) in a condition which, if not good, is yet not reduced. Of these it is thought that many must, ere long, be constrained to apply for relief.

"On the other hand, while severity is deserved by those who try to resist the just efforts for reform and economy in the administration of relief, there are many poor ignorant persons misled by designing leaders. No exertion is spared to induce these misguided persons to accept the reasonable sort of relief which they are believed to need. To the village works only those are admitted who cannot be expected to perform the tasks set on the larger works. It was thought that these works would be more largely attended than they are. The authorities are ready to receive many more if they come, either on existing works, or upon other works which could be immediately opened. These works being of the simplest character can always be opened without any preparation. The gangs which I have inspected are exactly those whom we might expect to find; that is, they are people evidently needing assistance, strong enough to do light work near home, but not strong enough to perform the tasks of the public works.

"For the larger works, as already stated, preparation is always needed. And this preparation has been made in case there should be any accession or influx of numbers as the season advances. After consulting the Public Works authorities, I find that the works now open can accommodate 75,000 additional persons at the shortest notice. Here again, however, the rolls of the workmen do not fill as fast as was expected. Evidently the comparatively strictness of system is acting as a deterrent to keep away all save those who are truly in want."

6. We consider the Government of Bombay to be entitled to great credit for the firmness and care with which they have dealt with this matter. It is evident that while a very material reduction of expenditure has been effected by the exclusion from the relief works of persons not really in need of relief, every precaution has been and is being taken to afford relief to those who require it. Sir Richard Temple considers that the poorest classes not on relief are generally in tolerable condition, and that while there is much scope for incessant vigilance, every effort has been made to secure it.

"All village headmen have been warned of their duty in this matter; they frequently do give temporary relief on their own responsibility pending orders of relief officers. Lists have been made out in every village of persons likely to come within this category. European officers are posted in each one of the many subdivisions (talukas) of the distressed districts; and they, together with their Native subordinates, are constantly patrolling the villages and seeing whether the village headmen really do bring forward every deserving case or not. In every subdivision (taluka) of every distressed district there is a relief centre for the reception of these cases. The number on charitable relief is large indeed; but looking to the circumstances of the country, I should be glad to see it larger. It is, however, remarkable that many of the destitute poor are reluctant to resort to the poor-house from a feeling of self-respect which is creditable to them.* Here and there, however, I have discovered persons who ought apparently to have come

* Mr. Bernard mentions the case of a woman in the Poona district in the receipt of charitable relief whose son, on his return home at once, and of his own motion, repaid to Government the full amount spent on the relief of his mother during his absence.

Credit due
to Bombay
Government.

under the operations of these rules, and I think that the local officers cannot be too often reminded of these excellent orders."

7. With reference to the allegations which have frequently been made of the occurrence of deaths from starvation, Sir Richard Temple writes as follows:—

"I have not received any trustworthy evidence whatever that any death from starvation occurs or is in danger of occurring in these districts. But I have received much excellent evidence to the effect that nobody is dying or likely to die of this cause. Statements of an opposite description are sometimes made, but they are merely general in their terms, and are manifestly advanced in support of the view that easier terms of relief should be offered to the people. I am unable, however, to discover upon what foundation any statements that the people are starving can possibly rest. If any instance has happened within the last two months, it must be very exceptional. If any instance happens now, it must be owing to some extraordinary conduct on the part of the person concerned, certainly not to any want of means of relief at hand."

8. As your Lordship is aware, there has been much discussion and difference of opinion as to the sufficiency of the rate of wages now allowed on the relief works. It will be seen from Sir Richard Temple's telegram of the 6th instant, the text of which was communicated in our last weekly telegram, that Dr. Townsend, the Sanitary Commissioner with the Government of India, who has recently inspected 34,000 relief labourers in the distressed districts of Bombay and Madras, considers that the reduced rate is sufficient to support the labourers in fair condition, provided that care is taken that the individual recipient is the only person supported on it. The opinion formed by Dr. Harvey, though expressed in less positive terms, is to the same effect. The reports made by Dr. Cornish, the Madras Sanitary Commissioner, on his inspection of the north-western portions of the district of North Arcot and of Madanapalli in the subdivision of the district of Cuddapah, to which reference is made in the Despatch addressed by the Madras Government to your Lordship under date the 31st ultimo, and which apparently contain a repetition of the adverse opinion already expressed by Dr. Cornish as to the sufficiency of the reduced rate of wage, have not yet reached us. On the evidence at present before us we are not satisfied that an increase is necessary, provided that due care be taken that the whole of the reduced rate is available for the support of the individual recipient, other arrangements being made for the relief of those members of his family who are unable to work.

The reduced
scale of
wages.

9. The following telegram, dated yesterday from Trichinopoly, has been received this day from Sir Richard Temple:—

"Have visited part of Salem district. Am now *en route* to Negapatam to inquire concerning grain traffic thence, which is still very slack. Proceed to North Madura. Good spring showers fallen in Mysore Province, Salem district, and parts of Trichinopoly, Coimbatore, and Tinnevely. The Cauvery and other rivers in flood. Ploughing in progress wherever rain has fallen, and numbers on relief decreasing in that neighbourhood. Condition of Madura uncertain. In districts above Ghâts number decreasing, Bellary and Cuddapah. This is to be expected as season advances. Import grain trade in that quarter diminishing, which indicates sufficiency of local stocks. Mortality from sickness still continues in some districts. Numbers on charitable relief increasing, and among these persons many are found wretched. If present prospect of showers is realised, there will be no increase of distress in Southern India. Mortality at relief camps near Madras and in the city still continues. General aspect of affairs in whole Presidency more favourable than anticipation for middle of April."

10. In the Madras Presidency there has been a further increase in the numbers on the relief works, namely, from 663,997 to 693,761. The numbers charitably relieved have also risen from 105,067 to 114,782. The rapid increase under charitable relief appears to be principally attributable to the grant of an allowance for children under seven years of age.

In Mysore also considerable increases have occurred, the number of persons on works being now 75,417, and of charitably relieved 52,471, which is 11,460 above the preceding week.

Regarding Bombay, we have no later statistics than those communicated to your Lordship in our telegram of the 7th instant.

We have the honour to be, &c.

(Signed) ALEX. J. ARBUTHNOT.
AN. CLARKE.
JOHN STRACHEY.
E. B. JOHNSON.

Nos. 242.
262.

MINUTE by SIR RICHARD TEMPLE, dated Madura district, the 14th April 1877, being a General Report on his Mission to the Madras Presidency.

Sir Richard Temple's report on his mission to Madras.

By the resolution of the Government of India, dated 5th January 1877, I was deputed on a special mission to the presidencies of Madras and Bombay to inspect the distressed districts, to communicate personally with the two Governments regarding the measures which were being carried out, and which would have to be carried out, for the relief of distress, and to offer for their consideration such suggestions as might be deemed suitable.

By the Despatch of the Government of India, dated the 16th of the same month, general instructions were conveyed to me for conducting the work of the mission.

I have accordingly visited all the distressed districts of the Madras Presidency, and the principal of the distressed districts of the Bombay Presidency, and have forwarded from time to time to the several Local Governments full minutes of all suggestions that occurred to me; of all which minutes copies have been submitted regularly to the Government of India. Being now, with the permission of the Government of India, about to relinquish the work of the mission, I have to make a general report regarding the Madras Presidency. In respect to the proceedings of the mission in the Bombay Presidency, I would ask the Government of India to refer to my minute of the 23rd March, to which nothing need now be added under existing circumstances.

This report then will refer to the Madras Presidency alone. It will be divided into the following parts:—

- 1st. The extent of the drought, the failure of the harvests, and the effect of these disasters upon the fortunes and the physical condition of the people.
- 2nd. The measures adopted by Government to help the people in meeting or bearing up against these misfortunes.
- 3rd. The several points towards which the proceedings of the mission have been principally directed.
- 4th. The state of affairs at the present time of writing.
- 5th. The lessons to be deduced from all the circumstances which have yet occurred in connexion with these affairs.

In the following narrative and observations I shall have to deal with many matters on which controversy has been or may be raised respecting fact and inference, and with many questions regarding which there may be difference of opinion. I can only set forth the case as it presented itself to me after inquiry on the spot, and relate the impressions left on my mind by all that I have seen, heard, and read. It has not been any part of my duty to formally take or record evidence. Nor would space admit of my adducing proof of all the facts which may have to be stated.

PART I.

In regard to the extent of the droughts, the failure of the harvests, and the effect of these disasters upon the fortunes and the physical condition of the people, it is necessary to recall the fact that in 1876 throughout the greater part of the Madras Presidency the south-west monsoon or the summer rains were very deficient, and that the north-east monsoon or autumnal rains failed still more disastrously. In the northern portion only of the presidency, that is, in the littoral tract south of Orissa and in the deltas of the Godavery and the Kistna, was the rainfall ordinarily propitious. In the rest of the presidency comprising the peninsula of Southern India, the rainfall of the year ranged from 3 to 20 inches, in many large tracts of the worst districts it ranged from 6 to 10 inches. Whereas the average annual rainfall in this region may be taken to range from 20 to 40 inches. Even on the western or Malabar coast where, if anywhere, the rains are expected to be un failing, the rainfall was measured at only 87 inches, compared with an usual annual average of 126 inches.

The misfortune which, threatening first in July, and becoming more pronounced month by month, settled down upon the Madras Presidency during November, was aggravated by the similar misfortune which had befallen the Deccan districts of the Bombay Presidency, the greater part of the Mysore territory, and a portion of the Nizam's dominions.

The drought began in the north, a little below the River Taptee in Khandesh. In the Bombay Deccan it became severe in the districts of Ahmednagar, Poona, Sattara,

Sholapur, and Kaladgi. It was milder in the South Mahratta Country near Belgaum and Dharwar, and in the Nizam's territories around Goolburga and Raichore; but some parts of Dharwar suffered severely. Towards the Madras Presidency it reached the line of the Toongabhadra (or Toombadra) River which joins the Kistna below Kurnool, and followed the line of the Kistna to the eastern coast. In this latitude (16°) it stretched, with more or less intensity, almost from sea to sea.

Sir Richard Temple's report on his mission to Madras.

Within the Madras Presidency on the right or southern bank of the Toongabhadra the drought developed all its most destructive agencies, and showed its greatest force all along the frontier, covering the whole of the districts of Bellary and Kurnool and the greater part of Cuddapah, and comprising in desolation all the country above the Ghât mountains. Across the mountains it visited the greater part of the districts of Nellore, Chingleput (including the city of Madras), North Arcot, Salem, Coimbatore, and Trichinopoly. It caused the Kistna and its affluents to roll down in such a diminished volume that the canal from the Toongabhadra near Kurnool, and the great irrigation works of the Masulipatam delta were stinted in their supply. It made the freshes and floods of the Penair descend in such shrunken proportions that the reservoir and channels of Nellore were nearly deprived of water. It stopped the supply of the Cauverypauk lake near Arcot, and rendered the dam across the Palar inoperative. It rested for some time on the districts of South Arcot, Tanjore, and Trichinopoly, and threatened them with evil; they were, however, saved, South Arcot mainly by some later rains, and Tanjore and Trichinopoly partly by the same rains but chiefly by their canals. It extended itself with havoc throughout the southern peninsula, laying waste the districts of Madura and Tinnevely right down to the sea-shore near Cape Comorin; the tracts irrigated from the Tambrapoornee, near Tinnevely, alone escaping destruction. Though it failed to dry up the harvest of the rich tracts of Malabar and Travancore, or to prevent the Cauvery from filling the canals of the Tanjore delta, yet it rendered them powerless to send the succour that might otherwise have been expected.

Thus were injured, more or less seriously, ten large districts of the Madras Presidency, containing a total area of 74,000 square miles, and a population of 16,000,000 of souls. The whole of the area and of the population did not suffer in an equal degree. It may be stated approximately that 11,000,000 of people were distressed in a greater, and 5,000,000 in a lesser, degree.

In the devastated tracts there are two harvests in the year, one depending on the summer rains, the other upon the autumnal rains, the edible grains consisting of the rice and several kinds of millet. Of the whole cultivated area a small part (technically termed "wet") is watered from artificial tanks which often rise to the proportions of lakes; the remainder (technically termed "dry") is watered in some parts from wells, but for the most part from rainfall. The proportion of wet lands varies greatly in the several districts, being largest in Chingleput where it exceeds one-half of the whole cultivation, and smallest in Bellary where it is only one-twentieth.

The failure was worst in the "wet" lands. The tanks, having their catchment areas in undulating plains or low hills on which but little rain descended, were left almost dry. What are usually splendid sheets of water became scorched dusty plains, appearing as huge black patches with cracked and fissured soil. The sluices, the distributing channels, and all the apparatus of irrigation lay useless. Such an universal drying up of the tanks, for which the districts below the Ghât mountains are so celebrated, has hardly been witnessed within the memory of living men.

The "dry" lands fared somewhat better. Whatever rain fell, did cause something, however scanty, to spring up in them. But, even then, fertile expanses of champaign which ought to be clothed with crops looked bare and arid, being little better than a desert. The wells retained some of their supply; though even in them the water fell lower and lower, and sometimes disappeared altogether. Of the more valuable crops, the sugar-cane, the tobacco, the garden produce, were in part preserved. But the cotton crop of Bellary and Adoni yielded nothing. The factories are closed and the machinery is silent. Though the cultivators fell short of doing all they might have done, yet in countless instances they made a brave fight to save their crops. They excavated their failing wells, deeper and deeper in the rocky strata; they dug pits in their fields, searching for moisture; they sunk wells with wicker work. They delved for springs and under-currents of water in the sandy beds of the dry rivers, and there indeed their toil was often rewarded, miles and miles of well filled watercourses being led off to recuscitate the withering crops. These practices, which on this occasion stood the people in such

NOTE.—The Kistna district has been reckoned among the distressed districts; but I have not so regarded it, as only a small portion of it suffered.

Sir Richard Temple's report on his mission to Madras.

good stead, are known to them in ordinary times, but were resorted to very largely during this year. The Government wisely exhorted the cultivators to deepen the old wells and to excavate new wells; and offered them advances of money for these purposes, relaxing somewhat the rules and conditions under which such advances are ordinarily made. In many hundreds of instances they availed themselves of these advantages.

The failure was not uniform in degree throughout any of the distressed districts. It would be tedious here to give the particulars for the several subdivisions of each district. Suffice it to state that out of a full crop there were in the agricultural year 1876-77 only the fractions shown in the following statement, in a parallel column of which there is given the population of each district, so as to convey some idea of the gravity of the misfortune resulting from the loss of crops.

<i>Crop in 1876-77.</i>				Population.
Bellary	-	-	one-sixteenth of an average good crop	- 1,688,000
Kurnool	-	-	one-sixteenth " "	- 960,000
Cuddapah	-	-	three-sixteenths " "	- 1,351,000
Nellore	-	-	one-quarter " "	- 1,377,000
Chingleput (inclusive of Madras city)	-	-	three-sixteenths " "	- 1,336,000
North Arcot	-	-	one-quarter " "	- 2,015,000
Salem	-	-	one-third " "	- 1,967,000
Coimbatore	-	-	one-quarter " "	- 1,763,000
Madura	-	-	one-quarter " "	- 2,267,000
Tinnevelly	-	-	six-sixteenths " "	- 1,694,000

Experience has shown that the difficulty of dealing with famine is aggravated if the population is dense, and lessened if it is sparse. The following statement shows the average incidence of the population on the square mile in each district. As compared with some parts of India the most distressed districts are thinly peopled; and those tracts which are more thickly peopled are, fortunately, less distressed:—

Bellary has a population of	-	-	-	151	} persons to the square mile.
Kurnool	-	-	-	130	
Cuddapah	-	-	-	161	
Nellore	-	-	-	162	
Chingleput (exclusive of Madras city)	-	-	-	340	
North Arcot	-	-	-	282	
Salem	-	-	-	262	
Coimbatore	-	-	-	237	
Madura	-	-	-	238	
Tinnevelly	-	-	-	327	

The consequences of such a failure in 1876 are affected for better or for worse by the results of previous years. The year 1874 was generally good, and left a reserve of surplus grain. But 1875 was in many places unpropitious; and failure of crops in Mysore drained off supplies towards that province. In Bellary and in some parts of Kurnool, 1875 had been unfortunate in its seasons; and in Bellary 1874 had also been unfavourable. These circumstances caused the drought of 1876 to be felt with more intensity in Bellary than anywhere.

Inasmuch as the consequences of a scarcity in one region of India are mitigated or aggravated by the condition of other regions, it is to be remembered that from no part of the Madras Presidency could any surplus produce worth reckoning be drawn in aid of the distressed districts; that in the Mysore territories out of a population of 5,000,000 nearly 4,000,000 were also distressed; that in the Bombay Presidency some 5,000,000 of people were equally afflicted; that from the Nizam's dominions no considerable importation of grain could be anticipated, inasmuch as there also distress existed in some places. On the other hand—a fact of immense value—there was a good harvest in British Burma, in Guzerat, in the Central Provinces, in Malwa, in Northern India, and especially in Bengal, Behar, and Orissa.

This consideration leads us to the effect of these disasters upon the fortunes and the physical condition of the people. There was surplus grain enough and to spare within the limits of British India. But anxious minds immediately reflected whether the communications by sea and land would enable it to reach the distressed districts of the Madras Presidency. There was communication by sea from Calcutta to Madras, to Negapatam, to Tuticorin; and from Bombay to Beypore. From each of these ports

there was railway communication to every one of the distressed districts, save Nellore and Kurnool; even in the case of Kurnool the rail ran up to the western border of that district. But on these railways was laid the additional task of carrying grain to Bangalore, the entrepôt for the grain trade of the Mysore Province. The railway from the direction of Bombay pierced the Toongabhadra frontier, the very quarter where, as we have seen, the drought lay heaviest. The ships could bring, as was well known, much more grain to the ports than the railways could carry away. But the railways, with their combined power, could, it was calculated, carry 2,700 tons of food a day to the distressed districts. They who have seen what it is to contend with famine in Orissa, or North Bengal, or Behar, or Northern India, or Rajpootana—these know what priceless advantages are implied in the possession of transport by ships and by railways. What an amount of trouble, pain, and cost has been borne for want of complete communication during the famines in other parts of India, and has been saved by the possession of such communication during the famine in the Madras Presidency!

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While in the Madras Presidency prices rose to one rupee for six, seven, or eight seers (12, 14, or 16 lbs.) of common edible grains, tantamount to prices three times as dear as those of ordinary years—the prices in the Bengal Presidency were comparatively cheap; they ranged, for instance, at Calcutta, the most important place, at one rupee for 16 seers (32 lbs.). Thus there was a considerable difference between the prices at the places of demand and the places of supply, which afforded a fair margin of profit on importation into the distressed districts by trade, and encouraged the hope that private enterprise would surely seize the opportunity.

Though the area of the distressed districts is very extensive and thinly peopled, also much divided by hills and mountainous ranges, still the Madras Presidency is (for India) more than ordinarily well provided with good cart roads. The foresight of successive governors and administrators has caused the hills to be traversed in all directions by well aligned passes. Amidst the pasturage and the grazing grounds in these hilly regions there has been reared a race of hardy and long enduring draught-cattle. The carts are among the best constructed in all British India. The European merchants with characteristic vigour enter into the grain trade of the interior of the presidency. The Native grain dealers are resourceful and enterprising. If, then, the grain brought by rail from distant provinces should reach the several railway stations in time, there was little doubt of the power of the people to carry it on to their villages, at least during the earlier months of the scarcity. There was indeed much fear lest the draught-cattle should become stinted in their fodder and gradually exhausted as the season wore on and the heat raged fiercer.

There then arose that question which, however often it may be asked, can never be answered, as to whether the people had large or sufficient stocks of grain. There was a strong, though undefined, belief that they really had. For agricultural trouble of some sort, coming too in opposite forms—at one time drought and pestilence, at another time rainstorm and flood—has for some generations been so chronic in the Madras Presidency that probably the people, with an instinct of self-help against the evil day, habitually keep stores of grain. One season of propitious rain causes an immense productiveness in this comparatively inexhaustible soil, much beyond the current needs of the year for a population sparse upon the land. The people may thus be able to put by something for use in the years to ensue, which, as experience teaches them, are likely to be chequered by mishaps.

Even if the draught-cattle and some of the best animals in every village could be sustained through the troublous time—what, people would anxiously ask, will be the fate of the innumerable head of cattle used for ploughing and for other husbandry? They would be driven off in vast herds to the neighbouring mountains, the Eastern Ghâts, the Western Ghâts, the Central Ranges which form the backbone of the peninsula—where even in this year of scanty rainfall there is still some pasture. But then, with all the cattle upon a thousand hills, the scarce grass would be eaten up, perhaps, before the drought ends; and if so, then death must overtake them at last.

Lastly, there were some classes of the population regarding whom hope might be entertained and others for whom fear would be felt.

The Telugu and Tamil ryots* of the ryotwari settlements are the peasant proprietors of Southern India. They have a beneficiary interest in the lands they occupy. They pay a moderate and equitable land tax, assessed after a professional field survey in some districts, or settled after careful revision of the original assessment in other districts. They have had every motive to save something out of their yearly profits and to hoard

* There are Canarese ryots also in Southern India, but they are not numerous in the distressed districts.

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a little capital. They are formed into village communities headed by men holding hereditary offices; nowhere in India is the primitive village organisation better preserved than here. They are generally able to maintain themselves at least in any passing adversity. They are reputed to be poor; but poverty is a relative term. They are, indeed, a peasantry whom any Government might be proud to reckon among its subjects. They are prone to live beyond their humble income and to incur debt; notwithstanding this they have an unfailing credit with the village bankers who are also grain dealers. Under the ryots are the farm labourers, often holding some fields of their own, but adding to their livelihood by labouring in the fields of their neighbours. They form a large class having interests bound up with those of the superior ryots. They together with their wives and growing children are strong to labour. But now their vocation is gone for a time. There is no weeding or tending wanted for the withered crops. There is no harvesting to be done. The fields cannot be tilled for lack of moisture. The plough is unemployed. The oxen are straying in quest of fodder. Those men of this class, then, who possess any fields of their own may have some small stores of grain to live on. Those who are in the permanent employ of the village headmen or of the more substantial ryots, constitute a part of the capital of these little estates, and will be supported for a time by their employers. The rest must languish from the cessation of rural employment. These agricultural classes, both ryots and field labourers, have sturdy well-nourished frames. Among them may be seen large numbers with a stature and a stoutness hardly to be surpassed among the peasantry in any country.

Below these, in all the villages there are low-caste or caste-less people in a very varying condition—often in tolerably good case, often again living in squalor and degradation, continuing in scarceness at the best of times, and subsisting within the narrowest margin of existence in bad seasons. It was to be feared that from these outcasts of the social system charitable sympathy would be withheld by the better classes. There are also various gipsy clans habitually gathering the wild fruits of the forests, and eking out a precarious subsistence by disposing of jungle produce and doing chance work in the villages. On behalf of these poor untameable wanderers anxiety would be excited lest both the wild produce and the work should fail in a year like this.

Again, in some of the distressed districts there are many places, sacred to all Hindu nationalities, and frequented by pilgrims, by humble visitors, by religious mendicants, and by beggars of all sorts, from remote parts of India. If these people reached the holy spots they would doubtless be cared for by the religious establishments. But on the way they might find their travelling purse exhausted by the increased cost of food, and they might faint on the roadside or sink never to rise again.

It is remarkable that several of the most drought-stricken tracts belong to zemindars who, though possessing much rank and status, are not men of substance and capacity like the zemindars in some of the zemindari provinces elsewhere, but are either absent or involved in debt, or otherwise unfit to cope with the consequences of scarcity. These estates are sure to teem with instances of unmitigated misery.

In every town, almost in every large village, there are guilds of weavers, some making the finer, others the coarser fabrics. In many places there are shady groves of trees, serving as factories for this industry, and alive with the bustle of manufactures. But the demand for cloths has ceased for a time. The groves are no longer peopled, the spindles are hung up, and the looms idle. The weavers, thus thrown out of work, generally have means to last them for a time, but as they become gradually pinched and straitened they are unwilling to seek assistance from Government, which can be given only in return for labour unsuited to their sedentary habits.

Such then, in its character and in its effects upon the people, was the drought of 1876. Though some of the symptoms were extremely grave, there were many grounds on which to found the hope of a successful issue. Still the conjuncture was manifestly such as to call forth all the wisdom and firmness of the Government and all the devotion and ability of its officers.

PART II.

The second topic relates to the measures adopted by Government to help the people in meeting or bearing up against these misfortunes. It is necessary to insert a slight sketch of them—as they appeared to me—in order to explain the subsequent work of my own mission.

During the summer of 1876 small relief works were opened in Bellary, in Kurnool, and in other distressed districts. These operations increased as the months went on. It was hoped that they would be temporary only, and would cease if the north-east or

autumnal rains should be propitious. Up to the end of October, that is, to the close of the period during which hope of the autumnal rains remained, the number of persons thus admitted to relief was not large. The authorities who were then present on the spot must be supposed to have been able to judge of the necessity of affording relief. In the case of Bellary there was the consideration that the season of the preceding year 1875 had been unfavourable. The price of food, too, was dear throughout the greater part of the Presidency, having risen fast after the summer rains had begun to fail.

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Later in the autumn the state of the grain trade throughout the Presidency attracted the anxious attention of the Government. The failure of the autumn rains made it certain that a very large supply of food grain would have to be imported by some agency, commercial or other. Naturally the trade might be expected to bring in this supply. But if the trade should unfortunately be unable to do this, then it might in extreme resort become necessary for the Government to intervene in order to prevent the people perishing from want of food. The Madras Government seem to have doubted whether the trade would be able to meet such great requirements. In reality, however, during August, September, and October 5,637 tons of grain were imported into Madras from places beyond the Madras Presidency; further, 38,000 tons were imported into Madras port from various ports subordinate to the Madras Presidency; and 20,446 tons were carried by rail from Madras into the drought-stricken districts. Such facts occurring during these three months indicated considerable movements of trade and as much activity as could be expected at the outset of trouble; and the consideration set forth already in Part. I. of this minute regarding high prices in Madras compared with cheaper prices and abundant harvests in Bengal might have caused an anticipation of what actually happened afterwards, namely, large importation by sea during the winter months when Indian trade is always in full play. Still the Madras Government felt anxiety. Though there were no positive signs of the grain markets being anywhere empty, yet the grain trade was in many places sensitive and excitable. At some places there were grain riots. At Kurnool the trouble was so far serious that troops were sent there. In several districts grain robberies became daring and frequent, amounting to quite an outbreak of crime against property. In November and December numbers of famishing people came from the neighbouring districts into the city of Madras to beg for food. Public attention was painfully turned to these incidents, and inferences were probably drawn therefrom regarding the possible prevalence of famine in the interior of the country. Inquiry subsequently showed that no such widespread distress had broken out, or that, if it had anywhere broken out, it was being arrested by the action of the local authorities. Meanwhile a strong impression was made on the minds of many thoughtful persons at the Presidency.

Looking to all the circumstances of the time the Government of Madras determined on purchasing and did purchase, secretly and confidentially through a local firm, 30,000 tons of grain from places beyond the Presidency. This grain was to be held as a reserve, or to be sent to any place in the interior of the country where there might be any dangerous deficiency of grain. It was also decided that in the event of relief labour being employed to a great extent, the labourers should be paid in grain wherever this mode of payment might be deemed convenient. For this purpose additional quantities of grain were to be purchased within the Presidency. Thus were purchased about 13,000 tons, making up the total to 43,000 tons. The possibility of more purchases was contemplated, perhaps to a very large amount, according to the view which might be taken by Government of the requirements of the case, or according as events might unfold themselves.

The position of the markets in the more remote tracts situate near the Mysore frontier on the one side, and within the Eastern Ghât mountains on the other side, attracted attention. It was apprehended that Native traders would in some cases combine to keep prices abnormally dear, and would in other cases prove unequal to the task of supplying the local markets. By degrees the policy of the Government was developed further. Circumstances were foreseen under which it might be necessary for Government to throw grain into various places, not only to pay its own relief labourers, but also to influence the grain markets in favour of the people in the event of their being unable to purchase food, to frustrate combinations among the traders, and to prevent prices rising in any excessive degree. A transport agency on the part of Government was established for the distressed districts above the Ghât mountains with its head-quarters at Bellary. It was to ascertain from each local officer how much grain would be wanted either for paying relief labour or for other purposes. It was to engage carriage accordingly, that is, to make contracts for the supply of carts and bullocks to carry grain to such places as might be settled in concert with the local authorities under the direction of Government. It

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was to receive for transport all grain which might be received. It accordingly began to engage carriage, and by an early date carting contracts were made for 30,000 tons in all. It received quantities of grain which were despatched daily by rail and consigned to its care. Some consignments were sent to places close to the line of railway and some to places at a greater distance. The contracts were well and carefully made. The carriage thus engaged was efficient. And the executive arrangements were creditable to the officers concerned. The agency was capable of expanding into considerable dimensions until it should give to the Government an effective hold and check upon the grain trade in the districts above the Ghât mountains—Bellary, Kurnool, and Cuddapah—so that the State might either assist private enterprise in making the food supply reach the people, or prevent its being withheld from them, or import food by direct means according as the exigencies of the coming time might dictate.

It has been already seen that a system of relief on a small scale had been set on foot in the distressed districts before the end of October. When in November the failure of the autumn monsoon became certain, the prospect of widespread distress caused the Government and its officers to undertake the expansion of relief works. Some relief works of a larger kind were thought of. But in the main it was deemed necessary to open small relief works in every part of the distressed districts, in the heart of the drought-stricken area and among the villages, so as to be easily within reach of all who might need relief. These works were accordingly opened everywhere in numbers fully sufficient, according to this view of the necessity. The works were kept under the management of the Civil officers. The District Engineers and other establishments belonging to the Public Works Department were to advise and assist the Civil officers to align roads, to furnish designs, to help in professionally measuring up the work performed by the relief gangs. But they were not placed in actual command of any of the works or of the relief labour, nor was the tasking of the labour entrusted to them. All officers within the Presidency whose services could be obtained were despatched to the distressed districts. It was arranged to obtain the services of officers from other parts of India, especially Engineer officers and Civil Engineers. But little or no assistance of this kind had actually arrived up to the end of December.

The relief works were very largely resorted to. The progress of the number of relief labourers, men, women, and children, up to the first week in January, when the highest number was reached, may be thus seen:—

	Number of Persons.					
1st November	-	-	-	-	-	160,000
1st December	-	-	-	-	-	310,000
15th „	-	-	-	-	-	656,000
31st „	-	-	-	-	-	982,000
7th January	-	-	-	-	-	1,066,000
14th „	-	-	-	-	-	1,055,000

and the last-named number was increased to 1,165,000 persons by the addition of 110,000 persons on gratuitous relief.

The relief wages were at first fixed at $2\frac{1}{2}$ annas per diem for a man, the wages of women and children being proportionally less. In some places they exceeded this rate, and were as high as 3 annas. By the beginning of January they were reduced to 2 annas. Task-work was ordered, and the Civil officers did their best to enforce it. But to enforce it properly was, under the circumstances—that is, with fast coming crowds of labourers, and without any adequate professional agency—quite impossible. In only few places was it in any degree insisted upon. In most places it was quite easy. In many places it was nominal.

These operations certainly maintained the agricultural classes in unimpaired condition physically, and kept them in contentment and in immunity from trouble. And so far the famine was, at the outset, held thoroughly in check.

It was not deemed expedient to prescribe any test of admission, or to vest the Civil officers with any discretion to reject applicants for relief on any such ground as this, that they seemed able to support themselves, for a time, at least. It was thought that the wages offered were low in reference to the high prices, that persons who for the sake of such remuneration came on the works must be really in want, and that none save those in such need would come. There probably was, towards the close of 1876, much alarm in the minds of the agricultural classes towards the northern side of the Presidency, in the districts of Bellary and Kurnool especially, which feeling may be supposed to have naturally spread to the local authorities when they beheld the wide waste of lands once cultivated, and found a desert instead of rising crops.

It was up to that time, as I understood, the belief of the authorities that the Government should charge itself with the duty, not only of preventing mortality from starvation, but also of alleviating all suffering and relieving general distress during the period of the scarcity. How far this view could be sustained in reference to the intention and policy of the Government of India will be seen hereafter. But at the outset it considerably affected the character of the relief measures which were undertaken. Nothing could exceed the humane solicitude of the Madras Government and its officers on behalf of the people, as regards life and health and physical welfare. And the proceedings taken by them had a comprehensive scope, commensurate with the benevolence of the policy adopted.

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Consideration was given to the commencement of large public works on which relief labour might be concentrated under professional supervision. The projected railway from Bellary towards the South Mahratta Country was proposed for commencement, but on reference to the Government of India difficulties were found to exist. The vigorous prosecution of the excavation of the canal (already in progress) which is to be carried along the East Coast from the Pulicat Lake to the River Kistna, was ordered. Efforts were made, with a moderate degree of success, to obtain relief labourers from a distance for this work. Also the junction of this canal with the South Coast Canal below Madras was undertaken.

In the city of Madras and its neighbourhood the Government organised standing camps on a very large scale for the reception of the sufferers from famine. To this city there came thousands of wanderers, seekers for employment, and beggars of all sorts, who in Southern India are accustomed to roam from town to town, imagining that the larger and the more distant a place is, the more likely is it to afford a haven for the miserable. These poor people hoped to find work in the city of Madras, or to share in the private charities which, according to common rumour, were being bountifully dispensed by the rich Natives there. The famishing wayfarers were gathered from all the thoroughfares leading from the country to the capital. Excellent medical attendance was provided; but despite of it many died after being received into the camps. Similar camps were ordered to be formed near Arcot, near Vellore, and other towns in the interior.

The local authorities in the distant districts were instructed to establish centres of charitable relief, or to assist any effort which might be made by benevolent persons in this direction. Private charity was everywhere invoked and largely responded to the call. Many Native gentlemen honourably distinguished themselves in this good cause.

Up to this time, the end of December 1876, the Madras Government expended—

				£
On relief	-	-	-	372,500
On purchase of grain	-	-	-	302,400
				£674,900

There were other items, such as transport agency and local purchases of grain, which brought up the total to nearly three quarters of a million sterling.

The members of the Revenue Board were deputed to visit the most distressed districts, and to make reports to Government of all that they ascertained.

In every part of the distressed districts, the Civil officers of all grades exerted themselves with the utmost zeal, devotion, and humanity, and in a manner entirely worthy of the urgency and magnitude of the occasion.

PART III.

The third topic relates to the proceedings of the mission on which I have been engaged since the 14th January, the date on which I entered the Madras Presidency. At that time I was fully acquainted with the views of the Government of India, having had the advantage of learning them before starting on the mission. These views were immediately followed by me in anticipation of the official instructions which were expected to come very soon. The instructions dated the 16th January were received in the Madras Presidency on the 23rd.

The points to which attention was by these instructions authoritatively drawn may be summarised thus—

Every effort is to be made for the prevention of deaths by famine.

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Severe economy in relief should be practised. Indiscriminate charity on the part of individuals is admitted to be bad, but on the part of a Government is worse. A Government has no better right in a time of scarcity than at other times to attempt the task of preventing all suffering and of giving general relief to the poorer classes of the community.

The numbers on relief works are so great that there is reason to fear that many persons must be employed who without such relief could sustain themselves, for a time, at least.

The collection of such numbers should be restricted on works where labour is not exacted, where supervision is wanting, and where people can obtain, for the asking and in return for next to no work at all, wages in money or in grain.

No time should be lost in giving to the people, to the greatest extent practicable, the means of employment on large public works, which need not always be in the distressed districts or near the homes of the people.

The Government may be driven to set up petty relief works near the homes of the people, but not until distress becomes extreme, or a state of famine has been reached.

There is great advantage in paying relief labour in money (not in grain) wherever and so long as this mode of payment is practicable. But if money payment is not practicable, there is no more objection to Government purchasing grain for payment than there is to its making purchases through the commissariat for the troops.

There is to be no interference of any kind on the part of Government with the object of reducing the price of food.

Inquiry should be made as to how far private trade, if unfettered, can supply the wants of the country.

In certain localities remote from railways and large markets which private trade is unable to reach, it may become necessary for Government to intervene.

The transport of grain by the trade, by railways, by roads in the interior, and by the sea ports, should be carefully observed.

A question shortly arose as to what degree of distress was to be prevented by Government. I understood from the first that practically there would be two principal degrees of distress. Firstly, there might be distress which, however sore and lamentable, can yet be borne without physical health being impaired, or bodily power being disabled, or life being imperilled; and this the Government could not undertake to prevent or alleviate. Secondly, there might be distress which, increasing slowly, perhaps, but surely, must lead to extremity which would sooner or later end in death; and this the Government would, to the utmost of its means and ability, prevent. It was necessary, by the best diagnosis which could be made, to discriminate between the one kind of distress and the other; and if there should be a doubt whether any person or persons come within the first or the second category, then to give the people the benefit of that doubt. These principles were fully borne in mind in the discussions and conferences of the third week of January, in Bellary, Kurnool, and Cuddapah. Shortly afterwards similar principles were enunciated by the Government of India in reply to some references which had been made.

Such being the purport of my instructions, it became necessary to consider—what, indeed, I had been already considering from the moment of entering the Madras territory on the 14th January—the application of the principles as above laid down by the Government of India to the actual state of affairs in the Madras Presidency.

Among the most urgent of the many questions which presented themselves was the question relating to the purchasing, transporting, and storing of grain by Government. The proceedings of the Government of Madras in this important matter have been already described in this minute. Before starting on the mission, I had clearly understood that the purchasing of grain by Government from places beyond the Presidency was not approved by the Government of India; that doubt was felt as to the need of purchasing grain for Government within the Presidency; that the business of the transport agency should be reconsidered with a view to possible restriction. Proceeding from the north towards the Presidency I found quantities of grain being imported thither from the direction of Bombay and the countries beyond, and from the Nizam's dominions. Entering the Presidency I found the railway carrying grain to the utmost extent of its power. The local markets were everywhere seen to be well supplied. The traders—European and Native—seemed confident that the grain would be forthcoming from distant places, and that they could import it even to the remote parts of the interior of the country. The fears entertained by some regarding these remote parts did not appear to be shared by the trade. There was no sign of country carriage and draught cattle failing. Reports were received of the seaboard at Madras being piled up with

masses of grain brought by the ships. But I perceived, or thought I perceived, an apprehension in the minds of the trade lest the grain transactions of Government and its transport agency should have a dispiriting effect on private enterprise. There was no need whatever for Government to buy stores or transport grain for the payment of relief labour when the labourers if paid in cash could purchase food on the spot. All this was immediately represented to the Madras Government. The purchasing of grain for Government has subsequently ceased. The relief labourers are paid generally in cash. The transport agency has been restricted to the transporting of a limited quantity of grain (previously purchased by Government) to certain selected places, there to be held till further orders, and to certain limited engagements with contractors to supply carriage if required. The private grain trade has continued to be extraordinarily active.

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Having observed at various railway stations "blocks" or accumulations of grain destined for the distressed districts, and desiring to ascertain how far the several railways could be relied upon to carry the quantities necessary to supply these districts, I obtained from the Government of India the services of an Engineer officer belonging to the Railway Department. He was of great use in getting these accumulations cleared away, and in promoting efficiency in the joint working of the two railways. With his help I ascertained that the quantity then estimated to be required for the whole of the distressed districts and including the territory of Mysore, amounting to 2,700 tons a day, could with extreme exertions be carried by the two lines (that is, the Madras Railway and the Great Indian Peninsula Railway from Bombay). The railway from the Bombay side worked satisfactorily. But the working system of the Madras Railway, though cheap and sufficient for the light traffic of ordinary times, was hardly able to bear up against the pressure of the heavy traffic in a time like this. The Traffic Department of the Madras Railway, however, exerted itself most commendably under all these difficulties. The engine power on the Great Indian Peninsula Railway was found insufficient, and on the Madras Railway was quite unequal to such an occasion as this. In order to afford some remedy for this very serious want, additional engines were obtained from other parts of India. And in order to relieve the pressure, I recommended, with the full concurrence of the Madras Government, the doubling of the line as far as Arcot, which recommendation was accepted by the Government of India. Subsequently, in order to lessen the strain caused by the grain traffic to Mysore, the Madras Government desired that the Mysore traders should receive a part of their consignments through the port of Negapatam instead of through Madras, and reduced the rates on grain destined for Bangalore. When visiting Bangalore I pressed this matter on the consideration of the Native merchants there. And the Madras Government ordered additional measures to facilitate the landing of grain at Negapatam.

The question whether the three railways, namely, the Great Indian Peninsula Railway, bringing grain from the north-west to Bellary and Kurnool; the Madras Railway with its two branches, one towards Bellary and Kurnool, the other across the Peninsula to Beypore; the South of India Railway, leading from Negapatam to Trichinopoly and thence to Madura and Tuticorin opposite Ceylon,—could, or could not, at the worst season carry all the grain required for the distressed districts including Mysore, lay at the foundation of all our plans for a successful contest with the famine. Therefore, calculations bearing upon this point were repeatedly made and re-made. The results seemed to justify the expectation that the railways, in combination, would be able to perform this task. And, as yet, this expectation has been verified by the event. Such indeed have been the fluctuations in demand, that never yet have all these lines been simultaneously worked to the aggregate of their power.

An inspection of the country south of the right bank of the Toongabhadra (with its narrow fringe of unfailing cultivation watered by channels from the river) showed that the reality of the drought and its consequences equalled the worst reports. The Irrigation Company's canal, which can irrigate 250,000 acres of autumn crop lands, had given water to about 72,000 acres in the Kurnool and Cuddapah districts and so far proved to be a timely resource. But in some cases the ryots took the water too late to save their crops. The people have not as yet made use of the canal water in any adequate degree; for, in previous years only 9,000 acres have on the average been irrigated, whereas the canal has water enough for many times that area of autumn crop lands. It may be hoped that present experience will impart a stimulus to irrigation from this canal in future.

Among the questions which forced themselves on my mind at that time, 14th to 21st of January, in the most distressed districts, were these:—

Arc the measures of relief sufficient to meet the trouble?

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Are they more than sufficient in reference to the principle that the people should not be encouraged to resort unduly to State assistance and that all expenditure in excess of the actual necessities of the case should be prevented?

Are they in any degree open to the general objections set forth by the Government of India? If they are, then what steps by way of rectification ought to be recommended?

There could be no doubt that, on the whole, the grave consequences with which the people had been threatened by the drought were being successfully averted. In the interior of the Presidency, and especially in the most distressed districts above the Ghât mountains, there was no information of any mortality or even of any deaths of individuals from starvation. There was indeed information to the effect that nothing of the kind had occurred or was likely to occur. There was no sign of distress. Whatever distress had been threatened was being thoroughly relieved. Irrespectively then of cost, present or prospective, irrespectively also of any possible demoralising influences on the people, there was no doubt that the famine was being completely subdued.

It has been stated above that the consequences of the drought had on the whole been averted, because there was a defective point on which they had not been fully averted, namely this, that in some of the districts near Madras (as already mentioned) there was some unrelieved distress. This distress extended over nearly the whole of certain large

* Venkatagiri.
Kalastrī.
Karvetnagar.

zemindari estates,* which were not under the direct management of Government officers as the ordinary ryotwari districts are. It extended also over some of the lower castes in parts of the districts of Chingleput and

North Arcot, and it seriously affected many individuals in various classes. When the half-starved persons came forward at the centres of authority, or were picked up in public places, or were found lying about, they were fully cared for. But these occurrences might have been in some degree prevented had a proper system of village inspection and relief been ordered in the beginning. Even when events gave warning of the necessity of such a system, its introduction was too long delayed. But these defects, however grave, did not, when compared with the magnitude of the affairs in their totality, detract from the general result, which certainly amounted to this, that by the beginning of January the serious distress which threatened to rise in the Madras Presidency during December was effectually kept down.

But then there followed these several questions, namely:—

Whether the relief measures were more than sufficient?

Whether they encouraged the people to resort unduly to State assistance?

Whether they were involving an excessive expenditure beyond the actual necessities of the case?

Now, without at all disparaging the humane foresight, thoughtfulness, and anxiety of the Government, or the zeal, devotion, and benevolence of its officers, or the many difficulties and uncertainties with which this great and difficult affair was beset, I am constrained to answer these several questions in the affirmative.

But I would add in explanation, as already stated, that all those who were charged with the conduct of relief affairs, had up to this time thought themselves bound not only to save life but also to relieve to the utmost all suffering and general distress caused by the scarcity. And this understanding went somewhat beyond the intention of the Government of India as explained in the instructions just cited.

It has been already stated that on behalf of the Madras Government, one Member of the Board of Revenue after another had visited temporarily the most distressed districts, had consulted with the local officers, and had made reports to the Government, which had been very useful so far as they went. But these high officials did not always possess authority to give orders or instructions on the spot. Whatever authority they indirectly exercised was in its nature undefined, and was insufficient for conducting urgent and critical affairs. Each of them stayed but a short time and then returned to Madras. There was no superior authority resident in the scene of trouble, vested with power, and imbued with that sense of personal responsibility which conduces to forceful and thoughtful administration. Consequently there was no policy laid down in adaptation to local circumstances. The District Collectors had not enough of guidance under circumstances transcending their ordinary experience. And junior Civil officers in out-stations and in remote subdivisions were sometimes obliged to confront extraordinary difficulties, to incur large expense, and to commit the Government to important decisions, without having received any definite instructions.

Another difficulty consisted of the great size and area of the jurisdictions under each District Collector. The Collectorates of Bellary, Kurnool, and Cuddapah had extensive

and remote subdivisions, which had urgent affairs in progress, which were in the charge of officers full of zeal but comparatively young in experience, and which were removed by distance from the immediate cognizance of the Collectors.

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If, at the outset of the affair, some trusted official, who could have been empowered to issue orders on behalf of Government, and who would have been directly in communication with the Government, had been deputed to the most distressed districts, the Government of Madras would probably have succeeded earlier in systematising relief operations, and in securing economical administration.

As already seen, there were in the second week of January 1,165,000 persons on relief, of whom 1,008,000 belonged to the three districts of Bellary, Kurnool, and Cuddapah, and the remaining 157,000 persons belonged to the districts of Nellore, Chingleput, North Arcot, Salem, Coimbatore, and one or two others. In the last-named districts the numbers were not large enough to raise any important issue. But in Bellary, Kurnool, and Cuddapah, the numbers could not fail to arouse the gravest reflections.

The numbers on relief (relief works and gratuitous relief being taken together) in these three districts might be thus compared with the total population :—

—	Population.	Total Number on Relief.	Per-centage on Population.
Bellary - - -	1,688,000	460,000	27
Kurnool - - -	960,000	337,000	35
Cuddapah - - -	1,351,000	211,000	16

On examination of local details it was found that in several subdivisions of the districts of Bellary and Kurnool there were 50 to 60 per cent. of the population on relief works. It seemed possible that at the then rate of progression, the entire rural population in some parts of these districts would, with the exception of comparatively few individuals, be ultimately wishing to resort to State relief.

In Bellary there were, in addition, a large number of persons (upwards of 40,000) employed in the repairing of the roads and tanks and in the ordinary public works of the district, who were not reckoned as relief labourers at all, though they belonged to the labouring classes.

In the Deccan districts of the Bombay Presidency, which districts were afflicted by the same drought, the number stood thus for the same period :—

—	Population.	Total Number on Relief.	Per-centage of Population.
Sholapur - - -	718,000	93,000	13
Kaladgi - - -	816,000	27,000	3
Part of Poona - - -	318,000	47,000	11

The analogy of these equally afflicted districts pointed to the conclusion that there must be some excess in the relief administered in Bellary and Kurnool.

Again, these excessive numbers on relief in the districts of Bellary, Kurnool, and Cuddapah were found in the second week of January. According to the experience of all former famines in India, the numbers in January would be surpassed by the numbers of the succeeding months; indeed they would go on rising month by month till May, or till the south-west monsoon (expected in June) should arrive. If then these districts showed a million of recipients of relief in January, what it was anxiously asked would they be showing in March, or still more, what would be the enormous muster roll of April or May?

In January and February 1874, the worst districts of North Bengal and Behar hardly showed more than a few thousand recipients of relief. The numbers remained low till the middle of March. Then they rose rapidly, but did not reach their culminating point before the middle of April. No doubt there is a difference of at least one month in season between Behar or Bengal and the Madras Presidency, which might cause famine to declare itself a month earlier in the latter presidency. Still this would not account for the remarkable haste with which the famine seemed to be striding onwards

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in Bellary, Kurnool, and Cuddapah. And this consideration alone would have necessitated a review of the situation in these districts, to see whether there were not any artificial as well as natural causes working to precipitate a crisis.

The question then was whether any preventible causes existed to maintain the numbers on relief at such an excessively high rate in these districts? A sojourn of a few days in the districts of Bellary and Kurnool and a visit to Cuddapah, a careful inspection person by person of relief labourers, in gangs scattered over various parts of the country, an examination of some of the relief works, and much conversation with the local officers, European and Native, served to convince me that such causes actually existed. They were—

Offering of work close to the homes of the people;

Rendering the work light and easy;

Making the wages worth having irrespective of bare subsistence;

Admitting all comers without any question as to whether they could sustain themselves for a time;

Allowing all applications for employment without exception.

These several concessions offered considerable advantages in the eyes of a rural community. At that time a rustic family could earn on the relief works Rs. 10 a*

		Rs.	month; or Rs. 40 if the period of relief should last for
*Man -	-	3 $\frac{3}{4}$	four months. They will not perhaps seize the oppor-
Wife -	-	2 $\frac{3}{4}$	tunity if the work be hard and a long way off; but they
Two elder children -	-	3 $\frac{1}{2}$	will do so if it be easy and close at hand. Thus a

temptation is presented not only to the lower classes and to the field labourers, but even to the ryots and peasant proprietors who pay land tax to Government. A man and his family are not in actual want; they are not prepared to interrupt their domestic arrangements or to bivouac out or to work hard all day under the burning sun. But they find the times hard; their ordinary work is slack. They would be glad to make a little money. And this is exactly what the relief works enabled them to do, and what was actually done by tens of thousands of persons at that time. But manifestly this was not within the legitimate scope of relief operations. And undoubtedly some sort of demoralisation was beginning to creep over the rural community.

As already stated, the wages were, at the outset, supposed to be low relatively to the dear prices of food. But they were not really low, when every member of the family was able to earn them close at home. The monthly earnings of a poor family, at this time on the relief works, was equal to the salary in ordinary times of the lowest paid classes who can read and write.

These circumstances had not, however, lasted long; they were only in their inception; there was ample time within which they could be remedied. Under the best arrangements it is not always possible to avoid faults in such extraordinary affairs as these; it is more profitable to gird ourselves to set things right than to regret what may have gone wrong for a time, especially if that time has been but short.

In the first place, then, I addressed myself to the enforcement of task-work, and found from inquiry on the spot that at the outset there had been no sufficient progress made in this direction, but that subsequently the Madras Government had ordered task-work to be introduced. In most places these orders did some little good; in few places only were they acted up to. In fact, the numbers of relief labourers had swelled so rapidly that it would have been almost impossible to regulate properly the proceedings of undisciplined crowds, even if a strong regulating establishment had existed. But such an establishment did not exist. Those officers in Civil employ within the presidency who could be spared had, as already stated, been employed. It was held that officers from the Madras army could not be spared. Some officers from the Bengal army and from the Bengal Public Works Department had been sent for, but had not arrived. The European relief officers and the District Engineers, being few in number, did what they could, but were obliged to trust in the main to their Native subordinates. These latter consisted chiefly of Native Deputy Collectors, tehsildars, and Revenue Inspectors. Without any disparagement of the merits of these Native officials in the ordinary duties for which they had been trained, and with all acknowledgment of the good service rendered by some among them even on this trying occasion, I am obliged to state that they were generally deficient in aptitude for supervising relief work. They were appalled at the drought which had befallen the people and they shared in the most exaggerated fears as to its consequences. They admitted all comers, however well-to-do, without let, hindrance, or inquiry, and they permitted the people to freely indulge the hope that the State would feed everybody for the mere asking. There was nothing for it but to wait

the arrival of the additional officers expected to arrive, and meanwhile to press and urge the enforcement of such a degree of task-work as might be practicable.

At the same time I made careful inquiries in every direction regarding projects for large public works which could be undertaken with relief labour under professional supervision, and on which task-work could be exacted or piece-work established. The districts of Bellary, Kurnool, and Cuddapah were not fortunately situated in this respect. The project of a high level channel from the Toongabhadra was impracticable. The commencement of the railway from Bellary towards Dharwar had been negatived. The extension of the canal between Kurnool and Cuddapah was difficult in the state of the relations between the Government and the Irrigation Company. However, several main lines of road and several large tanks or lakes were proposed.

I duly remembered that in inviting projects for such public works in order to employ relief labour, there is the danger that proposals may be made for executing projects previously rejected on general grounds, to which projects labourers not absolutely in need might be attracted,—and that if this were to be allowed, the occasion of relief would be made use of in order to carry out unnecessary works, whereby extra and needless expense would be incurred. But this objection is obviated if those only are admitted who really need relief, who must be assisted on some work or other by reason of their distress, and if the strictest regard be paid to the selection of projects. Although the danger is real and has to be guarded against, it can with care be avoided. And this consideration does not at all counteract the advantages of insisting on relief labourers being drafted off to large public works wherever such can be found.

Although it seemed impossible at the time (though it afterwards became quite possible) to prevent the greater part of the works remaining under the care of officers whose tasking would probably be easy, still there were three things which could be done even by the unprofessional Civil establishments, firstly, moving the gangs to a little distance from their homes and concentrating them on works where some supervision might be managed; secondly, stopping the influx of new applicants who had been flocking in by tens of thousands week by week from some time past; thirdly, the eliminating from the ranks of the gangs those persons who were manifestly able to sustain themselves and whose presence constituted an abuse of the State charity. The numbers picked out to be discharged might not indeed be great enough to cause any appreciable saving of cost, but their discharge would have a gradual effect on the public mind, as showing that the Government would not suffer itself to be imposed upon.

I represented verbally without an hour's delay to the local authorities these various considerations, which I understood to be in the mind and intention of the Government of India. I avoided giving them any absolute instructions, for which indeed they were to look to the Madras Government. I conferred with them, and explained to them, for their consideration, the principles of relief policy and the results of experience. In most cases they seemed from their own experience to be prepared for these views, and often proceeded to give effect thereto, under the responsibility vested in them by their own Government. The general effect was an instant cessation of increase in the rolls of relief labourers, and the commencement of decrease almost day by day. The flow of the tide was arrested and the ebb set in.

I understood that the Madras Government, being satisfied that the approach of the famine had been withstood and repelled, was quite prepared to adopt further measures for systematising relief operations. On the 21st of January I laid before them, in addition to the enforcement of task-work already ordered, proposals for—

Stopping all fresh admissions to relief works in Bellary, Kurnool, and Cuddapah, save under an order from some responsible official;

Examining every gang person by person with the view of discharging for the present every one not in absolute need of State relief;

Reducing the relief wage for men from 2 annas to $1\frac{1}{2}$ annas per diem; the wage for women and children to be adjusted accordingly.

It was shown that at the price of common grain then prevailing and likely to prevail (namely, one rupee for eight seers or 16 lbs.) during the time of distress, the $1\frac{1}{2}$ annas rate would enable a man to buy 1 lb. of grain per diem, and to have a margin for buying vegetables and condiments. Besides the financial saving, which would be considerable, the foregoing narrative will have shown the importance of lowering the relief wage to the standard of subsistence, of sustaining life in ordinary health, and nothing more.

These views were generally accepted by the Madras Government on the 31st January, and orders were issued by them accordingly to all the distressed districts. Instead of the wage of $1\frac{1}{2}$ annas per diem as proposed by me, the Madras Government ordered that

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the wage should be fixed for all relief labourers, not under professional supervision, at an amount representing the price of 1 lb. a day of grain plus $\frac{1}{2}$ anna for vegetables and condiments. This rate was as economical as mine, but it had this disadvantage, that doubts would arise in different districts as to what kind of grain was meant, that time would be lost in discussion, and that, in the midst of doubts, the reduction of wage would in some localities fail to take effect. All this actually happened. The reduction did not take effect till nearly the end of February, and in many places it settled itself into the $1\frac{1}{2}$ annas rate, the very rate first recommended.

For those relief labourers who were employed by the Public Works Department under the departmental rules of work, or who, though supervised by other agency, might be working up to the departmental standard, a rate of 2 annas per diem was allowed.

While in Madras at this time, I named, at the request of the Madras Government, a number of covenanted Civil servants of the Bengal Presidency who had experience in the famine of 1874. The Government of India was pleased to despatch these officers for service in the distressed districts of the Madras Presidency. They arrived at their posts in the interior of the country with the least possible delay.

Subsequently I recommended that European officers of the Madras Army should, if they could possibly be spared, be employed in the relief operations. I also invited consideration to the advantage of employing the Native officers of all grades in the army, and also selected sepoys in the supervision of relief gangs and in the exaction of task-work; this plan having been tried with signal advantage in the famine of 1874, when numbers of Native officers and soldiers of the Bengal Army served throughout the famine relief, in a manner worthy of the great profession to which they belonged. By these means a trustworthy and comparatively inexpensive agency is obtained at a time of emergent demand for establishments of this description.

On or about the 24th of January the instructions of the Government of India, already described, were published throughout the Madras Presidency. Their appearance, of course, imparted authoritative weight and solidity to all the proceedings which had been taken to reduce the relief operations to system, and to prevent the waste of money, and strengthened all the representations which might be made with these objects to the Local Government and to its officers.

At the same time it was most important to provide for the inspection of the poorer classes in the distressed districts from village to village, from house to house, in the highways and byeways, in every place where men either congregate or wander. The orders of the Madras Government were that relief camps for the reception of destitute persons should be formed at all the principal places, and that the residuum of such persons should be relieved by the village headmen under the supervision of the district authorities. These orders were doubtless excellent so far as they went. But being general in their terms they needed to be followed up with more specific directions. On the 16th January I caused a detailed memorandum to be drawn up of the manner in which the Kurnool district might be divided into circles and sub-circles for the inspection of every house in every village, for the purpose of searching out cases of destitution, which memorandum was immediately transmitted to the Madras Government. On the 19th January I drew attention to the importance of impressing upon the headmen of every village their responsibility for bringing before the nearest authority every case of dangerous distress. On the 8th February I formally represented to the Madras Government the general importance of the subject, observing that, however comprehensive the relief measures might be, still experience showed that individuals or families might be suffering in silence, and might compose themselves for death without complaining. For this there was one, and only one, remedy, namely, inspecting the villages house to house, and bringing forward for relief every destitute or famishing person who could be found. I pointed out the remarkable advantages which the ryotwari system—with its staff of officials, tehsildars, and Revenue Inspectors in each of the many subdivisions into which every district was divided, and with the hereditary headmen and accountants in every village—offered for carrying out such a plan; concluding with a recommendation that, although the local authorities had a general understanding of the subject, they should be more specifically instructed in its details.

My next care was to visit rapidly the distressed districts below the Ghât mountains. As already seen, some parts of those districts were much distressed. And if the ideas which had for a time prevailed in the districts above the Ghât mountains (Bellary, Kurnool, Cuddapah) should take possession of the people below them, the crowding of large numbers on relief works might become very embarrassing. I therefore passed through parts of Chingleput, North Arcot, Salem, Coimbatore, Trichinopoly, Madura, and Tinnevely. This visit was decidedly re-assuring. The failure of the autumn and

winter harvests had been less ; the promise of the spring harvest was better ; the resources of the people were in several respects greater. Nothing like indiscriminate relief had prevailed ; the local officers had been cautious and thrifty ; the people had been taught the lesson of self-control under threatening circumstances. The recipients of relief were comparatively few, and their number did not seem likely to increase largely.

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At this time, the end of January, it became necessary for me to estimate the cost of the famine in the Madras Presidency. In December 1876 the Revenue Board had made an approximate estimate, which showed an expenditure of nearly $3\frac{1}{2}$ millions sterling, 3,410,000*l.*, exclusive of losses of revenue. But the Government did not accept this, as it was formed on very rough data only. But now, 5th February, it seemed proper for me to submit to the Government of India a preliminary estimate of the possible cost of the famine in the Madras Presidency. This was accordingly done. The main factor in the estimate was the probable number of relief labourers. This was ascertained from the Collector of each district, allowance being made for the restrictive measures which had been discussed, as already described in this minute. The numbers still seemed very high, and I was hopeful of seeing them reduced. But it was not thought prudent to deviate from the authoritative opinions of the several Collectors until further facts should be developed. And as these numbers were high, it seemed advisable to prepare the Government of India for all financial eventualities. On the data then furnished by local authority, the number assumed for February was 1,228,000 persons, for March 1,480,000, for April 1,840,000, for May 1,530,000. After that month it was calculated that the numbers would fall to 795,000 in June and 310,000 in July. Besides these numbers on relief works, it was thought advisable to provide for large numbers of persons coming on gratuitous relief, which numbers might gradually rise to 700,000 in the month of June. The result was a total estimated cost of 2,920,000*l.*, being 490,000*l.* or half a million less than the first rough estimate. The cost might under certain contingencies come out greater. But there was hope that if economy could be successfully introduced the expense might be kept much within this estimate, in which case a revision of the estimate would have to be made.

As measures of additional control came to be adopted, it was apprehended that local questions would arise which could not be promptly settled without some officer being present on the spot with plenary power. Further, with measures of relief spread over so large an area and affecting so many classes, it would be difficult to secure that uniformity of system which is necessary to be maintained, even after allowing for all local peculiarities, unless there be some authority at hand to whom all officers must defer. I therefore recommended that some officer be appointed to reside in the most distressed districts and be vested with power, subject immediately to the Government of Madras, to direct and control all the relief operations. No particular action was taken upon this recommendation.

I visited the Mysore Province for a few days at this time. The proceedings taken there, which were useful for comparing the standard of relief adopted in this neighbouring province with that prevailing in the Madras Presidency, need not be described now.

It then became desirable for me to return to the districts above the Ghât mountains, Bellary, Kurnool, and Cuddapah, to see whether the Madras Government orders regarding the systematisation of relief were being fully carried out. This second visit lasted from the beginning of February to the end of that month. During this time I visited many localities in the interior of the country, examined the various relief works, inspected numerous relief gangs, myself examining upwards of one hundred thousand relief labourers in all of both sexes and all ages, conferred with most of the relief officers, European and Native, and saw as much as possible of the middle and humbler classes who were not upon relief. Once more I impressed upon all concerned the principles set forth in the instructions of the Government of India, superadding this time, however, exhortation founded on the orders of the Government of Madras issued, as already explained, on the 31st January. By this time too the European officers, military and other, from distant parts of India, and especially the Civil servants experienced in the famine of 1874 (who have been already alluded to), were beginning to arrive. Their presence greatly strengthened the supervision and control. The local officers, despite much difficulty, exerted themselves most loyally to restrict relief to those who absolutely needed it ; to reject those who were making a convenience of the State bounty ; while they extended discriminating charity to all cases of real misery. Many persons were discharged as being manifestly without claim to support from Government. This doubtless discouraged applicants who knew themselves unworthy. To such persons the reduction of the relief wage served as a further discouragement. This tended to keep

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the numbers down. As might be expected, the increased supervision brought to light the various sorts of frauds, malpractices, and false returns, which are sure to be found on these occasions everywhere. The returning of persons who never existed is expressively termed in these districts the "counting of crows in the air and entering them in a roll." Sometimes outbreaks of small-pox or cholera or other sickness, sometimes also holidays and festivals, would cause gangs to break up, and not to re-assemble. Again, the relief works were systematically re-arranged in order to take the relief labourers to some reasonable distance from their homes, and to make the tasks in some degree irksome, so as to apply some test and trial of the reality of their need. The manner in which the gangs thinned their ranks, when required to move away, to perform a day's march, to render a fixed tale of work, to bivouac or encamp in the open fields, was quite remarkable. Then it was that tens of thousands proved by their own behaviour that they had been taking State wages for gain or convenience, and not for the support of life. More than this, many gangs, on receiving orders which would have been obeyed unhesitatingly by persons really in need, struck work, hoping to make terms with the authorities. Finding themselves unable to dictate their own terms, some would come back after remaining for a while on strike, but many stayed away altogether. Instance after instance occurred of gangs, some thousands strong, disappearing from muster on being told that the road running through the middle of their villages to which they had sauntered leisurely day by day for weeks past was now finished, and that they would be assembled at another road, one day or two days' march off. Other gangs equally large, on being set to do an augmented task, would cease working and run off, shouting that this new burden was unjust, and that Government, having let them become accustomed to easy work, should allow them to continue in ease to the end. The effect of all this was to bring down the numbers week by week. In Bellary, Kurnool, and Cuddapah the highest total in January of persons on relief works amounted to 950,000. It fell to 540,000 by the end of February and to 490,000 by the middle of March. And the decrease is the more remarkable, inasmuch as the season was advancing during which the distress was expected. In this part of the country the process of rejecting from the gangs those who are well-to-do and retaining those who are poor is described by an expressive phrase "shroffing," in allusion to the manner by which a "shroff" or money-changer tests the intrinsic value of the coins presented to him. Thus the majority of the people who left the works had "shroffed" themselves. In this part of the country there was no symptom of distress among these people after their departure. In some instances the prices of common things, grass, firewood, and the like, fell after their departure from the works, proving that they had reverted to regular occupations, and that their presence on the works had for a time actually interrupted rural business.

Inquiry was made as to what the relief labourers were doing with their wages. In many places it was understood that they were not devoting these earnings entirely to the purchase of food grain. The sales of grain at the shops or bazaars established near the gangs on the works appeared often to be less than the cash disbursements in relief wages. It was thence inferred that the labourers were hoarding a part of their wages. There was some information to the effect that they were exchanging the small copper coins for small silver coins.

Again, in some gangs there were large numbers of women whose husbands or relatives were not on the works, but were at home following some pursuits of their own. In such cases it was to be inferred that, while the husbands were following their ordinary professions, the wives were labouring on the relief works in order to eke out the little income of the family.

These and other indications seemed to show that, even after all the reductions in numbers, there must still be many who attended the relief works for gain and convenience rather than from necessity. Still the great majority of those now on the works, though maintained in good condition, would have rapidly deteriorated without State assistance. Thus the relief measures when duly restricted, were really necessary to prevent a section of the population from perishing or being disabled.

It was satisfactory to find that the robberies and thefts which had been so rife from November to January had to a great extent ceased, and that the state of crime against property was not much above its ordinary level. To this remark some places such as the frontier of Kurnool, near the Kistna, certain parts of Salem, and perhaps other localities formed exceptions.

During this visit I inquired most carefully as to whether the prescribed system of village inspection and relief was being carried out. It was found that much was being done in this direction; that the village headmen had received strict injunctions to inspect, report, or relieve; that they had in many cases received small advances of funds, so that they

would be without excuse for failing to afford relief in emergency; that circles had been formed each containing a few villages only, there being a special relief centre in the midst of each circle; that there was a larger relief centre at the head-quarters of each subdivision comprising a cluster of circles. But still here and there among the villages, and sometimes among the gangs of sturdy and vigorous relief labourers, I found weakly or wretched individuals. And sometimes inquiry into these miserable cases showed that the poor people were sharing their wages with infirm people at home. Such infirm persons ought, of course, to have been sought out and brought forward for succour under the system of village inspection and relief. These and other circumstances induced me again to address the Madras Government, reiterating the recommendation made on the 8th February, and suggesting the issue of more definite and detailed orders, compelling all village headmen to pay thorough attention to this part of their duties, and ensuring an effective watch over the headmen on the part of relief officers and officials of all grades.

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Wherever I went sickness and mortality, either just past or actually present, were found showing their sad effects. Everywhere cholera and small-pox met our view, and were mainly to be accounted for by unwholesome drinking water and insanitary habits. In some cases the sickness began with dysentery arising from bad food, and ended in cholera. But at that time, and in that part of the country, those who succumbed under insufficient nourishment, perished—if any really thus perished—through their own default, for everywhere was relief proffered, and was close at hand.

Having regard to the urgent need of large public works on which relief labourers could be professionally tasked, I recommended (with the entire approval of the Madras Government) that the earth-work on the projected railway from Bellary towards Dharwar, and on the branch connecting Chingleput near Madras with Conjeveram, should be taken in hand for employing relief labourers, on the understanding that the Government should not be thereby pledged in respect to the time and manner of completing the lines. To this recommendation the Government of India were pleased to accede.

I next proceeded (on the 27th February) to the Nellore district, and was much struck by the general excellence of the East Coast Canal, and its special suitability for the extensive employment of relief labour under professional supervision and with complete sanitary control. But, whereas the canal could employ 90,000 labourers, only 30,000 were then employed, and 60,000 were wanted. The orders of the Madras Government for sending to this canal relief labour from a distance had received attention, and some labourers had arrived, but their number was not very considerable. Notwithstanding this, in the very district of Nellore and at short distances from the canal, there were 55,000 persons employed on petty works under the Civil officers. These people were, as a rule, quite unwilling to exchange their comfortable work for labour on the canal. This is an instance of the sort of demoralisation which must arise when people are admitted to easy work at home while they might be drafted to larger public works. I urged the Collector to consider this. He arranged to draft 20,000 selected persons from his village works to the canal. I then represented to the Madras Government the expediency of drafting 40,000 persons from the relief gangs in Bellary and Kurnool, and orders to that effect were issued.

I also asked the consideration of the Madras Government to the suitability of the "Sungum" irrigation project in this district for employment of relief labour, for which project professional plans and estimates were ready.

Apart from the defect above noticed, the administration of relief in this district seemed to have been more careful and economical than in the districts above the Ghât mountains; but there were reasons to fear that the village inspection and relief was not sufficiently carried out.

Returning from Nellore, I again visited the North Arcot district, that being the quarter where—notwithstanding all the precautions which had been taken by the local authorities—individual cases of severe distress were most likely to be found scattered about the country. I found that, although the relief measures were sufficient in most parts of the district, still in some of the large zemindari estates (mentioned in a previous part of this minute) much unrelieved distress still existed, for the remedying of which full suggestions were offered by me to the district officers.

After this, on the 4th March, I was required by the Government of India to submit a revised estimate of the cost of the famine in the Madras Presidency. It has been already seen that the numbers of persons on relief had been steadily falling, especially in the most distressed districts, since the middle of January. It was therefore necessary to reduce the amount of the preliminary estimate submitted during the first week of

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February. Instead of the total of 1,200,000 relief labourers for February which I had then taken on the authority of the local officers, the latest returns for that month showed only 713,000. Instead of 100,000 which had been estimated as the number of persons on gratuitous relief during February, the actual number was 50,000. The result was that the revised estimate showed a total expenditure of 2,176,000*l.* instead of 2,920,000*l.* the total of the preliminary estimate. But it was explained that the revised estimate assumed the strict maintenance of all the economical checks which had been introduced, the coming of the ordinary showers in April, and the propitiousness of the coming summer monsoon. It was stated that if there should be failure in any of these respects, the estimate would be disturbed.

As favourable reports had been received regarding the districts of Madura and Tinnevely, it did not seem necessary for me to revisit them. But as events had fully developed themselves in the districts of Salem and Coimbatore, it was desirable to examine the relief operations there, and to see whether system and order had been fully observed. On visiting these districts I found that carefulness and economy, consistently with a due regard to the condition of the people, had been practised there from the first, and had been steadily maintained.

I examined the large relief camps in this part of the country, as well as in the neighbourhood of Madras. Their internal economy was excellent. But though largely attended, they somehow were unpopular with the poorest classes, and were sometimes avoided by even destitute persons. One cause seemed to be the insufficient provision for the separation of the better castes from the caste-less people, and for other social customs which even the humblest hold dear. This was immediately represented to the Madras Government. Some improvement has been already effected.

It was found that while some of the weavers habituated to make the coarser fabrics could labour on the relief works, those weavers who wove the finer stuffs with delicate handiwork could not handle the implements of rough labour. I therefore suggested that for the weavers of finer fabrics, who were often suffering severe privations, some light and suitable relief work should be provided. The Madras Government approved and acted upon this view.

I had to report to the Madras Government the information gathered regarding unrelieved distress in the three large zemindaris already mentioned in this minute, and regarding the failure on the part of the zemindars to do that which is elsewhere acknowledged to be the duty of landlords towards their tenantry and dependants. Suitable admonitions to those concerned have been issued by Government.

In some places I found private charity on a large scale being dispensed by benevolent Native gentlemen to all comers without discrimination as to whether they were deserving or undeserving objects. I therefore suggested to the local authorities the expediency of representing to the charitable donors that it would be preferable for them to contribute to some public institution of which the organisation is such as to admit of due discrimination being conveniently exercised.

I then proceeded to Madras to confer with the Government regarding the sufficiency or otherwise of the reduced relief wage. The Sanitary Commissioner of Madras had raised objections to the reduced scale of wages for relief labour, based on theoretical and scientific grounds, and supported by his previous experience of the people in Southern India. It was thought by him and by some others that the wage ought to be raised to the rate at which it had stood in the beginning of January. I, however, represented to the Government of Madras that the reduced wage had not received any proper trial, and that it ought, in justice to the public interest, to be fully tried. This view was accepted. It was at the same time ordered that any person in the relief gangs who might be found in a condition below par should be specially treated, either by extra allowance or by diminution of task.

It was arranged that, when relief labourers brought to the work children of tender ages unfit for labour, such children should receive a special allowance. This concession, on which the Madras Government laid great stress, obviated a risk which might otherwise have been run, when the relief wage was reduced.

Besides the advantage of economy, which is considerable, there are obvious reasons for keeping the wage down to the lowest rate compatible with the health of the relief labourers. The people are less tempted to resort to relief except under necessity, as they are known to be much influenced by the rise or fall of the relief wage. The margin for illicit practices on the part of ministerial officials is narrowed. If the wage is liberal, a part of it is sure to be absorbed by these officials; if it be just enough and no more, then the labourers cannot afford to give anything to the officials. The question whether the wage representing 1 lb. of grain a day, and $\frac{1}{2}$ anna for extras, is sufficient, can be

decided by experience. There is reason to infer from the rates of wages in ordinary times—not of trained labourers or of persons employed in central places or on special work—but of the labouring poor among the villages, and from the ordinary prices of food grains, that a man of this class can hardly get more than 1 lb. a day besides extras. If that be so, it becomes important to establish a relief wage on this basis. It may be that somewhat more liberal terms have been allowed on former occasions. But that is no reason why these more economical terms should not be now introduced if experience proves them to be feasible. And although some instances to the contrary were adduced, still at that time, the middle of March, large gangs of labourers in Bellary and Kurnool were known to have been working for some little time on the reduced wage without physical detriment. Opinion at Madras was apparently affected by the wretched condition of the wanderers who strayed into the capital or its suburbs, in quest of food, and who doubtless may need generous sustenance for a time. But these were cases of special distress and were quite apart from the mass of relief labourers in the interior of the country, who had been employed before they could lapse into wretchedness, and had since been maintained in good case.

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It was necessary next to proceed on the 15th March to the Bombay Presidency to carry on the work of my mission there.

I returned to the Madras Presidency on the 25th March, entering the district of Bellary. I found both in that district and in Kurnool that the engineering and professional establishments were still far from being adequately employed in the supervision of relief works and on the exaction of task-work. As herein there seemed to be a waste of power, and consequent detriment of the relief operations, I submitted to the Madras Government a detailed scheme, prepared on the spot in concert with the local authorities whereby certain selected works might in each of these districts be taken up by the Engineer officers—to which works the Civil officers might draft off all the strongest labourers of both sexes from the ordinary relief works. The persons thus drafted off would be really subjected to task. A precise statement was submitted of the works to which this scheme would apply; they were chiefly trunk roads running through these districts. I also tried to assist in expediting the selection of able-bodied men to be drafted from the relief works in these districts to the East Coast Canal and to the railway from Bellary towards Dharwar. The relief labourers, however, evinced much unwillingness to be transferred from the easy village works to these larger public works.

I also again examined the progress made with village inspection and relief. Much improvement in this respect was perceptible. Those destitute persons who could move were resorting to relief centres, established amidst the circles of inspection into which the villages had been grouped. Those who could not move were being specially treated in their villages by the village headmen. I was unable to hear of any death occurring or being likely to occur from starvation.

On this occasion I was accompanied by Dr. S. Townsend, the Sanitary Commissioner to the Government of India, whose assistance had been asked for to enable me to judge of the physical condition of the relief labourers, and to estimate under professional advice the objections raised by the Sanitary Commissioner of Madras. After inspecting nearly 40,000 of these people in different parts of the country, Dr. Townsend stated his deliberate opinion that their physical condition was fairly good, and that there were no grounds perceptible for raising the wages. This opinion I duly reported to the Government of Madras.

The Sanitary Commissioner of Madras has, however, admitted that, with the special allowance given to the little children of relief labourers, perhaps also with the allowance of wages on Sundays, the reduced wage is about equal to that which he himself recommended.

Still in some quarters it seems to be supposed that there is some connexion between the mortality among the recipients of gratuitous relief and the reduced relief wages; if persons die at the gratuitous relief camps, or are picked up in a famishing state on the roads or elsewhere, that is imagined by some to be a proof that the relief wages must be too low. But evidently there is no connexion whatever between the two cases. Those who are found starving (with exceptions so rare as to prove the rule) are not, and have never been relief labourers at all, and have not been earning any wages. Most of them are not accustomed or are not able to work; and this is mainly the reason why they have been admitted to gratuitous relief. How, therefore, can the rate of relief wages possibly affect them? Any inference drawn from these conditions would be wholly irrelevant if applied to relief labourers. These poor people have sunk into danger, either because they themselves failed to apply for charitable aid, or because those who ought to have brought them forward for gratuitous relief failed to do so. But that is a matter quite

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separate from the question of relief wages, which refers to a totally different class of persons.

Even though the reduced wage may, as now stated by the Sanitary Commissioner of Madras, be much the same as that which he recommends, and may so far have the support of his authority, still its effect ought to be carefully watched; and if any signs of real deterioration in the physique of the relief labourers should hereafter appear, there need not be any difficulty in raising it.

I then returned for a time to the Mysore Province, and again compared the relief system there with that in the Madras Presidency.

Thence I re-visited the Salem district, in parts of which severe distress existed following two successive years of drought, and where the village inspection and relief required further examination. Then travelling by Trichinopoly I proceeded to Negapatam, where the activity of the grain trade is producing much result, and to the Madura district, which is passing through a critical period of the drought. In these districts there have been showers, some heavy, some light, falling here and there on limited areas, and causing husbandry to revive wherever they fall. In the southern peninsula relief is afforded by the temporary emigration of abnormally large numbers to the coffee plantations and the labour markets of Ceylon; where they are still able to find remunerative employment.

I am now proceeding towards Madras, and I hope to visit South Arcot, in parts of which some distress is apprehended, and to pass through the Bellary and Kurnool districts once more, before leaving the presidency.

The mission has lasted from the third week in January (1877) to the fourth week of April. Within the Madras Presidency 10 districts, 46 "taluks" or local divisions of districts, and five large zemindaris, have been visited. 132,500 relief labourers of both sexes have been passed in review person by person, of whom 65,000 were found to be good in physical condition, 47,000 middling, 16,700 indifferent, and 3,800 bad. 5,300 miles have been travelled over, of which 4,420 were by rail and 880 by other means of travelling. These proceedings are irrespective of my tours in the Bombay Presidency and in the Mysore Province within the above-mentioned time.

Before concluding this part, it may be well to mention another question into which I inquired, namely, how far it might be absolutely necessary to remit the land revenue due from ryots whose crops had wholly or partially failed. In the Bengal Presidency the theory of the land revenue settlement is that the landholder bears any loss in bad years, for he enjoys all the profits of good harvests or high prices. In years of grievous failure of harvest it is customary to suspend collection of a part of the land revenue until the next good season comes. And in temporarily settled tracts some remission is often granted where all the crops have been lost. The theory of the Madras revenue system is somewhat different. In the districts under regular settlement the rule is that, if the water supply to any "wet" lands (that is, lands irrigated from tanks or rivers) wholly fails, then the land revenue on such lands is remitted in full, but not otherwise. For either it is a part of the implied understanding between Government and the ryot, or else it has been the practice, that water shall be provided to irrigate "wet" lands. On "dry" lands (that is, lands not irrigated at all, or irrigated only from wells) a reduction of 20 per cent. is made on the Government demand to meet vicissitudes of season; and on these lands no remission is granted save under very exceptional circumstances. In the districts not under regular settlement, remission of land revenue is granted on account of partial failure on "wet" lands, and it is also allowed more freely for loss of crop on "dry" lands.

The present season of scarcity deepening into famine is indeed very exceptional; and the Madras revenue authorities considered that very large remissions of revenue would be required; while they regarded it as inexpedient to hold in suspense over the ryots any part of the land revenue that could not with fairness be collected this year.

It seemed to me that the policy of Government in this matter might properly be reconsidered. The plan of spending very large sums of public money on saving life from famine had crystallised into a broad and important policy. But the cost of famine relief would be indefinitely augmented if the public treasury were to be consumed, as it were, at both ends, by great expenditure on relief and by large remissions of land revenue. The Madras land revenue has been moderately assessed, and falls comparatively light on "dry" lands; and an ordinary ryot might well afford to pay the arrear land revenue of a bad year out of his profits, if the succeeding two years shall be good. The circumstance that lands irrigated from wells are taxed at "dry" or unirrigated rates of land revenue, greatly strengthens the position of ryots on "dry" lands; for crops irrigated by wells yield an out-turn on which the assessment falls with very light

incidence. On the other hand, a considerable portion of the whole land is held by very petty ryots, whose standard of living is low, and who might be unable to pay up the arrears of their land tax in full. I estimated, however, that perhaps two-thirds of the land revenue, which could not fairly be collected this year, might be paid by the ryots during the two succeeding years, if the seasons should be propitious. And I recommended that the arrear land revenue of the present year should be kept in suspense, and that no remission should at present be promised on "dry" lands, in order that the public treasury might have a chance of recovering part of the arrears, if the future seasons shall be favourable. If the people should be found hereafter unable to pay the revenue for this year, which by settlement or other arrangement they had engaged to pay, neither I nor any one else would recommend their being unduly pressed. There will doubtless be under any circumstances a disposition to show to the ryot all the consideration which could be claimed under a just and lenient view of the obligations between him and the State. Also in the administration of such a branch of the revenue as the land revenue, due regard must always be paid to old-established practice, so that whatever proceedings are taken may be such as would naturally connect themselves with the existing system. But if fortunately the ryots should hereafter prove able to pay, then they ought to pay whatever may be due from them under settlement or other engagements; and there seems to be no reason why, by any premature remission, we should preclude ourselves from the chances of making such recoveries. If this principle be deemed novel in the Madras Presidency (it is not novel in other parts of India), there is on the other hand, the consideration that the public expenditure now going on, which is mainly for the sustenance of the lower agricultural classes, is without precedent in Southern India.

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The Government of Madras held that this view could not be accepted, and that the practice of Northern India is not applicable to the different circumstances of Madras. In Bombay, where, as in Madras, the land is held on ryotwari (petty proprietary) tenure, the Government after consideration accepted this view, so far that the arrears of the present year in the famine tracts of Bombay are in part "remitted," and in part "suspended" for collection in future years if seasons permit. The Government of India decided that the question of remitting or suspending the land revenue should be left to the discretion of the Local Governments. And the latest estimate of the Madras Board of Revenue is that 143 lakhs of rupees (1,430,000*l.*) of land revenue must be remitted on account of the recent failure of harvests. I see reason to hope that the total remissions, which will not be precisely known till August next, will fall below this estimate; for the board has inculcated and enforced on Collectors carefulness and regard for the public treasury, within the broad lines laid down for the settlement of the affair. The decision of the Government of Madras is taking effect, so far as the present trouble is concerned. But the question has so important a bearing on the Imperial finance of future famines, that I may have to submit to the Government of India a further account of the matter in a separate paper.

PART IV.

The state of affairs at the present time of writing may be summarised thus. The numbers on relief were according to the returns for the third week in March—

	Persons.	
On relief works	-	664,000
On gratuitous relief	-	97,000
Total	-	761,000

By 1st April these numbers rose to—

On relief works	-	695,000
On gratuitous relief	-	115,000
Total	-	810,000

The total is moderate as compared with the total which was shown upon the data given me by the local authorities in the beginning of February, after they had made many abatements in the direction of restrictive economy.

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But with the advance of the season the numbers may be expected to rise.

In respect to those upon the works, the great majority do really need and deserve this relief. There doubtless are still among them many thousands of persons who are not absolutely in want and who would certainly leave the works, if only severe task-work could be enforced, or if they could be drafted to large public works under professional control. I still think that something more might be done towards this very salutary end.

The exaction of task-work is probably as good as can be expected in works under Civil officers and unprofessional establishments. In some of the districts below the Ghât mountains it has been enforced with a strictness most creditable to the local authorities.

It must be admitted that the plan of employing relief labourers on large public works has in a considerable degree failed in the Madras Presidency. More might have been, and might still be done in this respect. The engineering and professional establishments of the Public Works Department have not, I think, been directly utilised enough for conducting the relief operations. This defect ought, apparently, to be remediable. Again, the impression produced on the minds of the people by the liberal manner in which petty works among the villages were opened in the beginning, intensified the distaste of the relief labourers for large public works. This also overwhelmed the authorities with unmanageable crowds of persons demanding instant attention, and distracting the thoughts of all the officers from the business of systematisation and organisation.

But even if the Public Works establishments had been perfectly brought into play, if the fullest restrictiveness and abstinence had been practised in respect to petty Civil works, if the officers had been able to concentrate their energies on systematisation, still it must be allowed that the distressed districts and the presidency generally were unfortunate in having so few large practicable projects suited for the employment of relief labour. It is but just to remember this, when the poverty of result in this respect is reviewed; though, perhaps, the utmost may not always have been made of the few works which did exist.

The total of those on gratuitous relief amounts now to 115,000 persons. It is in some degree swollen by little children whose parents are on the relief works. Excluding these children, I am sure that the total is not larger than it ought to be. Indeed I fear that it is not large enough. Despite the persistent efforts which have been made, the system of village relief and house-to-house inspection is far from perfect. Disappointment may reasonably be felt at the shortcomings in this matter under a ryotwari system which offers such advantages in this behalf. Much was to be expected from the hereditary headmen and the hereditary accountants in the villages, who represent ancient institutions which have been studiously fostered by the Madras Government for generations. These men may yet do well, and are doing better than they did, but at first they were backward in their duty.

The following statement shows the per-centage of the total number on relief (relief works and charitable relief together) on the population of each district :—

Distressed Districts.	Total Numbers on Relief Works and on gratuitous Relief during the First Week of April.	Per-centage of Persons receiving Relief of both kinds on the Total Population of the District.
Bellary - - -	269,000	17 per cent.
Kurnool - - -	236,000	24½ "
Cuddapah - - -	80,000	6 "
Nellore - - -	69,000	5 "
Chingleput (inclusive of Madras city).	29,000	2 "
North Arcot - - -	32,000	1½ "
Salem - - -	53,000	3 "
Coimbatore - - -	27,000	12½ "
Madura - - -	12,000	½ "
Tinnevely - - -	3,000	⅓ "

I have again drawn attention, with suitable suggestions, to the unduly high per-centage which, after all the reductions which have been made, still prevails in Kurnool.

A corresponding statement for the distressed districts of the Bombay Presidency, which have been already adverted to in this minute, stands thus :—

—			Total Numbers on Relief Works and on gratuitous Relief during the Third Week of March.	Per-centage of Persons receiving Relief of both kinds on the Total Population of the District.
Sholapur	-	-	49,955	7 per cent.
Kaladgi	-	-	27,120	3½ "
Part of Poona	-	-	57,691	6⅓ "

The physical condition of the people in the distressed districts of the Madras Presidency is fairly good; better decidedly than it was expected to be. An impression (which I quite share) seems to be gaining acceptance that the agricultural classes have more self-sustaining power, more life-supporting resources than was originally anticipated. There is reason to think that the relief wages earned by so many thousands have not been entirely spent in buying food, but have in part been hoarded. This circumstance may be expected to facilitate the discharge of these people as soon as the season shall improve. There is still some lamentable mortality in or about Madras itself, and in some other central places below the Ghât mountains, which, though immediately caused by disease, is in part traceable to insufficient nourishment. The death-rate among the people received into the relief camps in and about the city of Madras continues extraordinarily high. These occurrences, happening at or near the capital, naturally make a painful impression on the public mind. Elsewhere the physical condition of the peasantry is in the main satisfactory, although to a broad and important statement of this kind there are, and must be, some exceptions. On the whole the consequences of the drought are being well subdued.

However successful the physical results may be in saving life and in preserving the bodily strength of the people from deteriorating, the moral effect of the relief operations cannot be overlooked. These operations must bind the people to the Government by ties of gratitude and respect. But there remains the question whether anything like demoralisation, or disposition to rely unduly on the State, or indisposition to practise self-help among the people has grown out of these affairs. While admitting the efforts made by the cultivators generally to save their crops, I have received an impression that in many cases they have failed or omitted to do all that they might have done to retrieve their misfortunes, or to extemporise the means of raising some crops despite the destruction of the ordinary harvests. The almost constant recurrence of scarcity in some part or other in the Madras Presidency, and the quickening of the sense of responsibility on the part of Government during recent years, may have taught and are teaching the people to regard the State as a beneficent power on which they may, in the last resort, rely for sustenance, whether they do their best for themselves or not. If there be any such feeling in their minds, it must have been evoked by the liberal manner in which relief operations were commenced in Bellary, Kurnool, and Cuddapah towards the end of 1876. Some demoralisation did, I think, begin to creep not only into the labouring classes but into the peasant proprietary, and threatened to spread. It was but narrowly avoided, if, indeed, it was avoided altogether. However, the measures subsequently taken have kept the proprietary classes comparatively free from such depressing influences. But there is fear lest the sense of the duty of being independently industrious should become lowered among the labouring classes.

The spring harvest in all the distressed districts, save Bellary and Kurnool, has been tolerably good. With a larger yield probably than was expected, it has tended to keep down prices, and to bring out stocks to market. It has added something most opportunely to the food-supply of the year. Its productiveness is mainly due to the wells. While most of the tanks or lakes, which ordinarily fertilise the best lands, have remained empty during this drought, the wells have been the means of drawing water from those subterranean reservoirs which the granitic formations and the various rocky strata retain, preserving the moisture of previous times. It is noteworthy in most parts of the Madras Presidency that wells, if deepened, will still produce springs of water, despite a drought, certainly of one year, and probably of two years. One of the best prophylactics against famine, then, is to encourage the excavation of wells more and more. The experience of 1876 and 1877 has, as already mentioned, imparted much impetus to the sinking of wells throughout the country. It is to be hoped that the Government will be able to maintain this impetus in years to come. And the circumstances of 1877 vindicate the policy whereby the Madras revenue system imposes no additional land tax on fields watered by wells which the ryots themselves have dug.

It is of course to be regretted that the elaborate system of tanks or lakes, on which so

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much of skilled labour and capital has been expended for so many generations, should be almost entirely exhausted by one year of drought, that most of these noble reservoirs should not hold more than one year's supply of water, and that so few of them are efficiently protected against the disastrous floods which periodically recur. Whether many of them could be made to hold (as some few probably are holding) a quantity of water that would outlast a drought of one or two years' duration, is an engineering question of some difficulty. In the Madras Presidency, hydraulic engineering has been pursued with such signal success that all practicable expedients may be presumed to have already been tried. Still this particular point is proved by the experience of 1877 to be so important that a notice of it cannot be out of place or inopportune.

There was in the beginning some fear lest the drinking water should prove very deficient in some parts of the country. As yet, however, there has not been any such deficiency, though often the drinking water has deteriorated during the drought; and wherever this has happened, the people have suffered.

The activity of the grain trade has been most healthy, from the seaports to the central marts, from the railways to the roads, from the markets and depôts to the village booths. This activity was more vigorously exhibited during the early months of 1877, and to it must be attributed the steadiness of prices and their tendency to fall rather than to rise as the season of trouble has advanced. But during the last half of March and the first half of April the importation of grain by sea to Madras, and by rail to the northern frontier, has somewhat declined. The accumulated bags of grain, housed in barns near the Madras beach seemed so unmanageable in quantity, that men wondered whether the railway would be able to carry away such an amount within the allotted time. But there is little fear of its not all being soon cleared away, now that the hitherto constant influx has subsided. The quantity of grain required from without for the distressed districts could never, of course, be estimated beforehand with any certainty. But various calculations on different series of data concurred in pointing to 2,700 tons a day as the quantity for which carrying power should be provided. And every effort was put forth to secure provision accordingly, with a fair prospect of sufficient success. But now the average quantity carried daily is under 2,000 tons. Notwithstanding this, the markets—great and small—the entrepôts and depôts, in the interior of the country continue well supplied with grain. Nor is any apprehension expressed by the traders. The inference necessarily is that the stocks of grain within the Madras Presidency, and the internal resources of the country, must be greater than the original anticipation.

From the beginning of the present trouble down to the end of March 1877, the quantities of food grain brought into the distressed districts of the Madras Presidency amounted to about 535,000 tons. This great supply was drawn from several sources, thus,—

By sea into Madras, Tuticorin, and other East Coast ports from	
Bengal, Burma, Orissa, and Ganjam	356,000 tons.
By sea into Beypore and other West Coast ports	118,000 „
By the Great Indian Peninsula Railway from Northern and Central	
India into the Madras Presidency	61,000 „

The pressure of the scarcity was felt in the interior of the country before imported grain began to arrive from distant provinces. And the earliest movement of the grain trade was the transport of grain by rail from old stocks on the coast into the interior. Considerable importations from without began in November, and the imports went on increasing till they culminated in January with a total of 101,000 tons. The imports slackened somewhat in February, when the total was 80,000 tons; and they were still less during the month of March.

Only 30,000 tons of all this quantity were imported on Government account; the rest, 505,000 tons in all, were brought into the country by private trade. The imported grain was distributed by the Madras railways into the interior of the country, thus,—

Bellary, Cuddapah, and Kurnool received	147,000 tons.
The Mysore province received	81,000 „
The districts of North Arcot, Salem, Coimbatore received	73,000 „
The districts of Chingleput and Malabar received	10,000 „
	311,000 „

Of this total, some was sent into the Nizam's territory, and the remainder has either been distributed by the South India Railway, by cart or by canal boat through the coast districts, or is still awaiting means of railway carriage into the interior. There were some considerable grain imports by cart from the southern ports of the Bombay

Presidency, and much grain was carted from Raichore and other places in the Nizam's territory into Kurnool.

If the period from August to October 1876 be included, the total imports into the Madras Presidency will be seen to be as follows :—

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IMPORT OF FOOD GRAINS into the PRESIDENCY of MADRAS.

Madras received in	From Ports beyond the Presidency or non-subordinate Ports.	From subordinate Ports.	Total.
	Tons.	Tons.	Tons.
August 1876	1,769	38,000	43,637
September „	875		
October „	2,993		
November „	26,792	30,000	85,466
December „	28,674		
January 1877	72,985	36,000	201,852
February „	57,421		
March „	35,446		
Total	226,955	104,000	330,955
Other East Coast ports received from all sources			25,000
Grand total Madras and East Coast			355,955
Bey pore and Calicut received from all sources			63,000
Other West Coast ports ditto ditto			55,000
Grand total of West Coast ports			118,000
The Northern districts received by rail from Great Indian Peninsula Railway			61,000
The above figures abstracted show the total imports as follows :—			
By sea from Bengal, Burma, Orissa, and Ganjam to Madras, Tuticorin, &c.			356,000
By sea into Bey pore and other West Coast ports			118,000
By Great Indian Peninsula Railway from Northern and Central India into the Madras Presidency.			61,000
Grand total -			535,000

If, as is probably the case, imported grain did not come generally into consumption before the month of November, then the grain which was carried by rail into the interior of the country before the end of March will suffice to feed $3\frac{3}{4}$ millions of people for six months, that is to say, it will support 25 per cent. of the population of the more distressed tracts of Madras and Mysore from the 1st November down to the end of April. These grain importations, distributed as they have been by railway and by cart over the length and breadth of the country, have sufficiently supplied all requirements. And the price of common food grain at the larger marts has since the 1st January last usually been cheaper than 8 seers (16 lbs.) per rupee; while even at the lesser marts of the interior prices have rarely been so dear as 7 seers (14 lbs.) per rupee.

Passing from the present to the thought of the future, we cannot but reflect whether the uncertainty of season which often proves so disastrous in Southern India is not becoming worse and worse, whether there may not be some physical causes at work to render the rainfall precarious, and whether such causes can be ascertained or obviated. It is hard to conceive a question more practically important than this. The discussion of it would be beyond the scope of this minute.

But, connected with it, there is one particular matter which may be mentioned forcibly though briefly. The southern peninsula of India has been or is being denuded, not only of its forests but also of its jungles, its brushwood, its groves, its trees. The denudation has been, as I understand, going on near the sources and the upper courses of the many rivers which water the country. This perhaps is being in some degree checked. But with the progress of coffee planting, and with the assertion of communal rights on behalf of the people, the utmost vigilance will be needed to keep it within bounds. If it were to proceed unchecked, there would be imminent danger of the rivers running dry by reason of the catchment basins and the drainage areas near their sources being rainless. And as these rivers supply the great canal systems, this danger has only to be mentioned in order to be felt. The same argument applies in a lesser degree to the tanks or lakes which are second only to the canals in usefulness for irrigation. It has

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already been seen how precarious is the position of these reservoirs even with one year's drought. The progress of the country causes the price of timber and of firewood to rise. The introduction of railways has, in the absence of any local coal mines, greatly augmented the demand for fuel. Strong temptations are thus inevitably offered to the people at large to fell, cut, and lop recklessly, to bring every log, stump, and stick to market, to dig out the very roots of the jungle, so stopping any chance of reproduction, without thought for the future. There are stories to be heard everywhere of groves and hedgerows and scattered trees being cut for sale. In the midst of cultivated tracts there are to be seen bare sterile hillsides, said to have been forest-clad within living memory. In such localities the climate is supposed to have changed for the worse. Beyond the Ghât mountains, in Bellary and Kurnool, the treeless, shrubless aspect of the country is as wonderful as it is melancholy. These are the very districts where famine has been occasionally epidemic, and where scarcity is almost endemic. Any thoughtful spectator must perceive that according to all meteorological experience, and to the almost certain teaching of proved facts, these fine districts were not destined by nature to be the prey and sport of famine or scarcity, but have been rendered subject to these calamities by the thoughtless action of man. Even the numerous groves planted in the last generation by the great Collector, Mr. Robertson, whose name is still a household word, were made over many years ago to the villagers, and have been mostly cut down. Trees, jungle, and forests must, indeed, be thinned and cut for the use of man; but they need never be exhausted, and something might always be left for re-production. There is, of course, a department of forest conservancy in the Presidency, and much good is done thereby. Whether its functions and proceedings are fully sufficient for the wants of the country is a question not to be discussed here. At all events there is reason to hope that the waste lands in hill and dale, which are in this Presidency so extensive, might be kept much more thickly wooded than they are, and that large areas now quite naked and devoid of vegetation would, if reserved and guarded, become again covered with trees or brushwood as they were in former ages. And the successful efforts of individual officers in the past prove what may yet be effected in the way of planting. If the necessity be duly recognised, then there is no doubt of the possibility of devising remedies.

Before this part of the minute is concluded it is necessary to advert to the estimate of the cost of the famine. It has been already shown that the first approximate estimate by the Revenue Board showed a total of 3,410,000*l.* But the estimate of relief expenditure made by me in the beginning of February on data obtained from the local officers during January showed 2,920,000*l.* In that estimate it was necessary to follow the local estimates of the numbers to come upon relief works, the total of which came to 1,800,000 persons in the worst season between the middle of April and the middle of May, there being actually 1,066,000 in the beginning of January. But finding that system and economy had brought down the actual number to 713,000 by the end of February, I presented a revised estimate of 2,176,000*l.* on the 6th March, in which the highest number on relief works at the worst season was assumed at less than 1,200,000. There was great hope, however, that even this reduced number might prove to be in excess of the reality, if the system which had proved so successful in February could be kept up through March, and due effort was to be made to keep it up. The result for March has been even better than that for February—when the difference of season is remembered—and has been better still, relatively, for the first half of April. If system and economy be maintained, and if no new adversity of season shall happen, it is thought that the highest number will not exceed 800,000 persons on relief works, and may be even less than that. My latest estimate now shows 2,050,000*l.* of expenditure.

This estimate, as my former estimates, is exclusive of losses of revenue.

PART V.

There are yet to be considered the lessons to be deduced from all the circumstances which have yet occurred in connexion with these affairs. It seems to me that from these events we forcibly and positively learn—

To determine beforehand, as soon as any forecast of the coming distress can be made, the large public works upon which relief labour can be employed, and upon which task-work can be exacted, or piece-work established, under professional supervision;

To notify generally and to intimate to all concerned, especially to the Civil officers, the particular public works to which the relief labourers in each distressed district are to be drafted;

- To organise an engineering staff in readiness for undertaking vigorously these particular public works when the time for active operations shall arrive, and to prepare for devoting to this purpose all the professional establishments which can be obtained ;
- To prohibit absolutely, in the beginning of the distress, the opening of petty works under Civil officers or non-professional establishments among the villages close to the homes of the people ;
- To refuse relief to strong able-bodied persons of both sexes in any form, save employment on the large public works ;
- To allow petty village works to be opened only when severe and widespread distress has declared itself at a comparatively advanced stage in any district or part of a district, and even then to reject all, save those who cannot reasonably be expected to proceed to the large public works,—in short to reserve these petty works for the weakly, the sickly, the advanced in life, and for those who have any just claim for indulgence ;
- To insist upon a systematic inspection by responsible Civil officers of all relief gangs, person by person, and from time to time, in order to see whether they are all in need of or deserving of State assistance, and to note whether their physical condition improves or deteriorates, and whether their wages are too much or too little ;
- To reject every applicant for, or recipient of relief, whether on a public work or on other works, who can be shown to be able to support himself for a time without State assistance ;
- To take care that such establishments in various grades are provided beforehand as may be able to exact tasks on the petty works near the villages ;
- To keep the wages on relief works at the lowest rate compatible with the health of the labourers, this being necessary, not only in the interests of economy, but also to prevent demoralisation of the people ;
- To insist on inspection being instituted from village to village in the distressed districts for the discovery and treatment of the casual cases of dangerous distress which are likely to occur, this inspection of villages, house to house, to be made stricter and stricter as the season of distress advances, full use being made of existing rural institutions (hereditary headmen, accountants, and the like), or, if these do not exist, such arrangements being improvised as may prove adequate ;
- To organise relief camps on a sufficient scale near large towns, at central spots where high roads converge and the like, for the reception of destitute persons who should be compelled to live there temporarily as a proof of the sincerity of their appeal for help ; and to adapt the internal arrangements of these camps as much as possible to the caste feelings and other social habits of the people ;
- To encourage private charity to the utmost, but to explain to benevolent persons that they can best serve the public by making their contribution to some public organised institutions, where relief can be restricted to the deserving, rather than by dispensing charity to all comers, among whom there are sure to be many undeserving ;
- To allow and encourage smaller relief centres in the interior of the districts as the season of distress advances, to which all recipients of gratuitous relief must resort who can move ;
- To provide for those who are destitute and unable to move being cared for in the villages ;
- To arrange relief charges territorially in compact and manageable areas, so that no jurisdiction shall be too large or too remote for the supervision either of the District Collector, or of an officer of the experience and status of a Collector ;
- To depute, either to the whole distressed territory, or to the most distressed districts, some officer, with full instructions as to the policy to be pursued in relief, and with power to direct and control on the spot the relief operations, subject to the direct orders of the Government itself ;
- To postpone relief operations as long as may be safely possible, while maintaining full preparedness against any emergency that may arise, and, by annexing to all forms of relief such conditions as the people can reasonably bear, to teach them that State support is not a matter of course for the alleviation of general distress, but is only permissible to prevent extreme distress and to save life ;
- To make forecasts of the State expenditure required for relief, but to revise them at short intervals from time to time, being mindful that the questions relating to the effect of scarcity upon the condition of the people are recondite ; that the event may be worse than the anticipation, and more often perhaps may be better ;

Sir Richard Temple's report on his mission to Madras.

To watch carefully the rising of prices in the beginning of scarcity to rates even three times as dear as ordinary rates, to withstand the alarms which are likely to be excited among the people by such symptoms, in the confidence that, so long as prices are cheaper elsewhere, the dearness constitutes a remedy provided by the economy of nature, for attracting supplies through private trade ;

To contemplate purchases by Government of grain in distant markets only under absolute necessity when there is no prospect of supply on the spot, but to be ready, if need arises, to buy grain from local or other dealers who will deliver it at the places where it may be required to pay relief labourers or to feed destitute paupers ;

To reject all proposals for placing Government grain in any positions within easy reach of railways or other main lines of communication ;

To pay relief labour in cash so long as the labourers can buy food with their wages, and to postpone paying in grain as long as possible, because any purchases of grain by Government, however unobjectionable otherwise, tend to disconcert private trade if it exists in the locality, and to raise undefined apprehensions ;

To contemplate the possibility of being obliged to organise Government transport establishments in the event of emergency arising, but to avoid as long as possible calling them into action or placing them in the field, lest misapprehension should be caused in the trade ;

To publish from week to week, while the scarcity lasts, information regarding the current prices, the importation of grain from without, the varying state of the distressed districts, the carrying power of the railways, or other transport agencies ;

To maintain on the great railway lines a moderate, though adequate reserve of engine power, so as to enable the railways to meet emergent requirements such as must arise in a year of famine :

To consider the possibility (so far as engineering considerations may permit) of ensuring in the irrigation tanks enough water for at least two years ;

To stimulate the ryots to sink wells more and more, and to assist the people with advances of money for this purpose so far as funds may allow ;

To diligently inquire whether the failure of seasons, so chronic in Southern India, can be traced in any degree to preventible causes ;

To conserve existing forests and woods, however small or scattered, to study the reproduction of extinct jungle, to preserve the groves, to make plantations, to encourage the spontaneous growth not only of timber trees but also of brushwood wherever possible ;

To jealously watch and guard the forests near the sources and the incipient streams of all the rivers.

Doubtless all the points which have been mentioned above are well known to the Government, and most of them have received practical consideration. But as their importance has been brought home to us by the experience of the Madras famine, it has seemed proper to specify them here, as they may be useful for reference on future occasions.

In conclusion, it is not required of me to express any general opinion regarding the treatment of the famine in the Madras Presidency, which famine, indeed, is not yet over. But I must declare my cordial thanks to the Madras Government and its principal officers for all the kindness and consideration received from them during my mission. And though the Government is doubtless well aware of the merits and services of its officers throughout this trying time, yet I must state my sense of, and add my testimony to, the excellent conduct of the local officers, the Collectors, Sub-Collectors, Assistants, and other Civil and Military officers employed on relief. Having travelled, worked, and lived among them for three months of strenuous exertion, I have unsurpassed means of knowing how unremittingly they have toiled, how thoughtfully they have planned, and how anxiously they have striven in the service of the Government and for the good of the people.

My thankful acknowledgments are due to the members of my staff—Mr. C. E. Buckland, C.S., Captain S. Rivett-Carnac, and Dr. R. Harvey—for their zealous and useful assistance in the work of the mission ; also to Captain W. S. S. Bisset, R.E., for his vigilant attention to all affairs connected with the grain traffic on the railways.

From my Secretary, Mr. C. E. Bernard, C.S.I., I have received valuable aid and counsel in every branch of the work, and I would represent his good service and his administrative ability for the favourable consideration of the Government of India.

No. 215.

C.—MEMORANDUM by MR. BERNARD on RELIEF AFFAIRS in the worst part of the SALEM DISTRICT, during the middle of April 1877, dated Morapore, 16th April 1877. Nos. 216. 237.

The total population of the district is in round numbers two millions. On the 9th April the district had—

Relief in Salem district.

On relief works—	No.
Under Civil officers	24,527
„ Public Works Department officers	26,861
Total	51,388

On gratuitous relief 17,249

During the last fortnight there have been partial showers, nowhere exceeding $1\frac{1}{4}$ inches, and in most places much less. The people have ploughed a good deal of land where the rain has exceeded half an inch. As yet the rain has not sufficed to raise fodder for the cattle.

2. The relief labourers are for the most part paid by piece-work; and the rates are from 50 to 100 per cent. dearer (that is, more favourable to the workman) than in ordinary years. Some weeks ago the rates were harder, but they were lightened by the Collector, who considered that the people were becoming reduced in condition. An adult male labourer earns at piece-work from $2\frac{1}{2}$ to 2 annas a day; women and children make proportionate earnings. Some few light labour gangs in every taluk are on a daily wage of $1\frac{1}{2}$ annas a day for men, and $1\frac{1}{4}$ annas for women. Infants who cannot work get 3 pie a day, whether their parents belong to piece-work or light labour gangs.

3. Though the whole district is distressed, yet some parts are much worse than others. The Dhurumpooree taluk (population 186,000) is the worst of all; next comes the Ootengiri taluk (population 170,000); and there is some severe distress in and around the town of Salem, and in the taluk of Trichurgode.

4. It is ascertained from Mr. Dawes, Deputy Collector, that in his two taluks, Ootengiri and Tripettore, there were—

8,100 on relief works under Public Works Department officers.
2,800 on relief works under Civil officers.
1,000 on gratuitous relief in three relief camps and at villages.

The village relief system established by the Collector in January, but stopped by the Board's orders after a few weeks' trial, is now being revived. Under this system a list of the helpless poor in every village is made out and checked, and then a cash allowance, 12 to 15 pie a day, is made to each one of these destitute people through the village headman; children get only 10 pie. The success of this system depends entirely on the supervising staff; and the Collector has 8 to 14 circles in each taluk with a sufficiently paid inspector over each. These inspectors acting under the tahsildar and relief officer, see that the gratuitous allowance really reaches the needy people.

5. Nearly all the relief labourers in these two taluks are employed on piece-work at rates which are double (that is, twice as dear as) the rates of ordinary years. All the work done is useful work, and most of it is on tanks. No public works undertakings are going on, or ever have gone on in the Salem district, side by side with and in competition with the relief works. Both Mr. Dawes and the Tahsildar of Ootengiri were confident that deaths do not now occur in these two taluks from starvation, unless in the case of some of the wanderers whom it is so difficult to control. Cholera keeps constantly appearing here and there among the villages. Cattle are dying in great numbers; to this fact the enormous number of hides constantly brought to market testifies. People have driven their cattle down off the Shevaroy and other hills because of the want of water there. In the low lands there is no absolute dearth of water either for man or beast.

6. At Dhurumpooree 2,300 labourers were inspected, of whom about 200 were on daily wages at the $1\frac{1}{2}$ anna rate; and the rest were on piece-work, earning about two annas for each male adult. Most of these people had been employed for three or four months. About two-fifths of them belonged to Pariah, and three-fifths to other castes. Among them were some 400 men and women who were remarkably stout and strong; these sturdy gangs have to do 20 per cent. more work for the rupee than the other gangs, and they are going to be drafted on to tank work elsewhere. The rest of these workpeople were in fair (but not first-rate) physical condition; some few were below par. There was only one really emaciated person, and he had been at work for three months; but

Relief in
Salem dis-
trict.

he had been supporting two sick relations at home out of his wage. The children were, as a rule, in very fair condition. The tahsildar and a pensioned Rajpoot Subadar, who lives in Dhurumpooree, considered that the people in these gangs were decidedly below the physical condition of such people in ordinary years, but if we could, by our relief operations, keep the suffering poor up to the standard of these gangs till the end of the famine, we should be very successful.

7. Some 400 applicants for work were inspected. Most of these people have till very lately been on other relief works, and their condition was on the whole fair.

8. On inquiry into the causes of the depressed condition of the labourers as reported by the Relief Officer and Collector several weeks ago, it appeared that the relief wage had been kept at 1 anna 6 pie for adults, even when food was selling at 11 and 12 lbs. per rupee. Under the Madras Government orders of the 30th January, the man's wage ought to have been about 1 anna 10 pie or 1 anna 11 pie when the price of food was so dear. Prices in Dhurumpooree are now much cheaper, ranging at 16 or 17 lbs. per rupee for rice in the Dhurumpooree bar, and 15 or 15½ lbs. in the outlying villages.

9. The aspect of the relief camp made it clear that we have not succeeded in keeping the condition of all the suffering poor of this taluk nearly up to the standard of the labour gangs of the Dhurumpooree Fort. There were 930 inmates, and among the children there were many, nearly 10 per cent., very emaciated little creatures. Most of these little things had been two or three months in the relief camp, and they had not picked up at all. Side by side with them were fat, happy little creatures, who got no larger allowance than the thin ones. The explanation given by the Relief Officer and the Native doctor is that some of the children came into the camp in very bad condition, and that they cannot assimilate the rice and rice broth. The Native doctor said that these poor little things passed their food in an undigested state, they had been tried with ragi, with rice and with cholum, and some of them had been treated in hospital with sago, but nothing would bring them round. Among the adults, too, were some people who had been in the camp for months, and yet were still very emaciated. The death-rate was for weeks six per diem in this camp.

10. The ration of rice in the camp has recently been raised from 16 ounces to 20 ounces per diem for adults, and the results of this change remain to be seen. But when the greater number of inmates; adults and children, flourish on the ration, the circumstance that a per-centage fail to recover condition does not by itself prove the ration to be insufficient. Probably the only way of getting these poor creatures into good condition will be to send them back gradually to their homes, with sufficient care for their maintenance on the road, and then to bring them upon the village relief now organised by the Collector. The change home, with assured hope of food while the trouble lasts, would give these poor people a chance of recovering. There seems to be something in the air or circumstances of the camp that prevents some of the people from picking up strength. Not that the camp is badly organised,—much otherwise,—the sheds are well ventilated and clean; and the camp is locally more popular than any other of the relief camps yet visited in the interior of the presidency.

11. It may not be possible to send some of the famine babies and their mothers home just yet; and for them the Relief Officer is, under the Collector's instructions, arranging some kind of nursery apart from the camp for the children which do not recover under present circumstances.

12. On some of the roads round Dhurumpooree and in the town were to be seen a certain number of emaciated people, women and young men, whose physical condition showed them to be in real need of relief. The village relief now being organised will, it is to be hoped, suffice to save such people from the risk in which they are now. In and round Dhurumpooree indeed are now to be seen more pronounced signs of famine than have been noticed anywhere outside the Madras camps.

No. 216.

No. 237. XCIX.—MINUTE by SIR RICHARD TEMPLE, regarding RELIEF OPERATIONS in the most distressed parts of the SALEM DISTRICT, dated Raneepet, the 17th April 1877.

Relief in
Salem dis-
trict.

In forwarding the accompanying memorandum regarding the most distressed parts of the Salem district, I have a few remarks to record.

2. The taluks above the Ghât range adjoining the Mysore plateau are among the most distressed tracts in the whole of the Madras Presidency. Some parts of these taluks have not had crops for two years. The endurance of the inhabitants and the relieving zeal of the officers are being tasked to the utmost.

3. On further examination the system of relief works in this district is found to merit all the praise bestowed upon it in my minute of the 12th March. As regards strict tasking by the Civil officers, utilising of the Public Works establishments, discharging relief labourers wherever showers enable the people to plough, preserving the relief labourers in sufficiently good condition without offering any undue temptation, selecting useful and beneficial works for the employment of relief labour, there is little left to be desired. And the management of the whole affair by the Collector, Mr. Longley, is entirely worthy of confidence.

Relief in
Salem dis-
trict.

4. The relief camp at Dhurumpooree, in the midst of the scene of the greatest distress, is comparatively popular. The camp at Salem is not unpopular, or at least is fairly well attended. There is some light suitable work afforded, or about to be afforded, to the weavers of the finer fabrics in that city.

5. The system of village relief and visitation is being carried out all over the district and nowhere is it more needed than here. In some of the worst tracts it was probably not commenced soon enough in full force. I trust that it is now going on rightly. At first there was some difference of opinion between the Collector and the Board of Revenue. The Board seem to have rightly deemed the Collector's proposals too large for the commencement, as indeed they were. But although the Collector could not carry out his own proposals in their integrity, he could fall back upon the general orders of Government to collect in large camps all those destitute persons who could be collected, and to sustain in the villages those who could not be so collected; and he doubtless did so. This plan is being carried out fully, as I understand, in the worst tracts.

6. There is one tract however where the system was not being carried out at the time of my visit, the 7th and 8th April, and where it is much wanted, namely, the low hills and valleys and jungly places in and about the Shevaroy hills inhabited by various Malayali tribes. Many wretched persons were met with going up to Yercand (the settlement on the Shevaroy hills), and some equally miserable were on a relief work at Yercand. Information reached me to the effect that others, in equally bad case, might be lingering in the huts and hamlets among these hills. I was glad to see that the subject was attracting the attention of the authorities on the spot. It certainly seemed to me that some special official ought to be deputed to examine immediately all the inhabitants of that group of hills. And I have been glad to hear that the Collector has since taken steps to effect such examination.

No. 217.

CL.—MINUTE by SIR RICHARD TEMPLE, regarding the Need for Improved Relief Arrangements in the Kalustri Zemindari.

No. 245.

Raneepet, 17th April 1877.

I have again inspected the relief camp at Arcot (Raneepet), and have inquired further into the circumstances of the inmates. The number is now just about 800. Fresh admissions are constantly being made; or rather fresh persons are daily being sent in, having been picked up or found on the roads or in the villages of the interior. But then there are desertions going on just as constantly, and so the numbers are not progressive. Indeed they are rather retrogressive, for recently there were, I understand, 1,200 inmates. If this be so, it would seem to follow that some hundreds of persons sent in by the local authorities in consequence of destitution must have deserted the camp and reverted to a most precarious existence. This necessarily causes grave apprehension, and suggests the necessity of re-doubled precautions for village inspection and relief. It might have been expected that many of the most wretched of them come from the zemindaris of Kalustri and Kárvetnagar, and this has led me to inquire further into the system of village inspection specially recommended for these tracts in my minute of the 5th March. It is the more necessary to pursue the subject, inasmuch as the distress is becoming more and more severe as the season advances.

Kalustri
Zemindari
need for
improved
relief.

2. The local authorities appear to have given the requisite orders in these very distressed tracts, that is to say, Government officials are sent round to inspect the villages, to cause those who cannot move to be relieved in their homes and those who can move to be sent to the relief centres, and some relief centres are in working order, though my impression is that the number of these centres might be increased with advantage. Taking the cases which I have just seen together with what I hear, I am under the impression that, however excellent the local arrangements may be in these two zemindaris, especially in Kalustri, they require to be further strengthened by European supervision of a superior kind. There ought to be the means of knowing whether the Native officials are really and faithfully performing that which must be a toilsome and irksome duty, on the due performance of which very many human lives may depend.

Otherwise I fear that many deaths from starvation may occur in Kalustri before the season of distress is over. I bear in mind that many destitute persons from the Madhoo Pauk portion of Kalustri resort to the camps at or near Madras, which are nearer than Kalustri, the head-quarters of the zemindari. Still I should apprehend that even this part needs more of trained and competent inspection than it now receives. And this remark is still more applicable to the more distant parts of the zemindari. I know that the Collector has not at his disposal any European officer for the work of such inspection. But the Government might be able to send an officer for this purpose.

3. I would therefore most earnestly and urgently recommend for the consideration of the Madras Government that a selected European officer of smartness and ability be deputed to Kalustri to reside there, and under the direction of the Collector to see that the village inspection and relief is thoroughly carried out, for the general carrying out of which he would feel himself responsible. He would understand that no destitute person is to be permitted to perish of hunger; that every destitute person who can move must be sent to a relief centre, where relief can be dispensed without compulsory residence in camp, and that every destitute person who cannot move (of whom there may be one or more in every village) must be fed at home. He might reside at Kalustri where there is good accommodation. And Kárvetnagar might be included in his jurisdiction.

No. 218.

No. 245.

CII.—MINUTE by SIR RICHARD TEMPLE, respecting passages in the Report of the Sanitary Commissioner of Madras.

Cuddalore, the 18th April 1877.

The reduced scale of wages. Sir Richard Temple in reply to Dr. Cornish.

It is necessary for me to make a few brief remarks upon the minute of the 6th April by the Sanitary Commissioner of Madras regarding the reduced wage for the relief labourers of Madras, inasmuch as this minute refers to some of my own previous minutes on the subject. Having regard to the importance of the subject, I refrain from making the objections which might ordinarily be made to the tone of some parts of the Sanitary Commissioner's minute as an official paper.

2. In order to show the uncertainty of medico-chemical dicta regarding such a matter as relief wages, I pointed out certain discrepancies between the Sanitary Commissioner's opinion and the Madras Manual of Hygiene on a particular point. The Sanitary Commissioner now says that the Manual of Hygiene is wrong on this point. Very possibly it is.

3. It is not necessary, however, to pursue this point, or any such like points, because I understand that the medico-chemical theories upon which the Sanitary Commissioner seems still to rely are not implicitly accepted by the highest sanitary authorities in India, and do not entirely coincide with the newest development of scientific thought regarding the carbonaceous and nitrogenous elements necessary for the nutrition of the human frame. Nor is it practically necessary to discuss further the Sanitary Commissioner's opinion regarding the sufficiency or otherwise of the reduced wages, because in his present minute he admits that, as now applied, it is sufficient. His previous objections appear to have been diminished by the granting of the wage on Sundays as well as weekdays, and by the granting of a small allowance for the support of the young children of persons employed on the works.

4. I had myself always contemplated that the reduced wage should be allowed on Sundays. As regards the very young children, their case did not at first suggest itself for consideration, as all children of seven years and upwards were admitted to relief. But as soon as the case of the children under seven years of age was brought to my notice, I recommended that they also should receive a small allowance. I found, however, that this had been already ordered by the Madras Government.

5. Though I do not undertake to pronounce any opinion upon a medico-chemical point, yet I do undertake to say whether thousands of relief labourers inspected by me are physically in fair working condition or not. And I adhere to the opinion previously expressed that the many gangs which I inspected working on the reduced wage were in such condition, regard being had to the condition of such persons in ordinary times. In this opinion I was confirmed by the experienced medical officer on my staff, who had seen the realities of famine in other parts of India. But in order that no doubt might remain upon the point, I asked for and obtained the opinion of the Sanitary Commissioner with the Government of India. And after inspecting in different parts of the country some 35,000 relief labourers, he pronounced them to be, with some individual exceptions, in fair physical condition. This then is the true test of the sufficiency or otherwise of the reduced wage to which I have always appealed and still appeal. According to this test the wage appears to be sufficient at present. If at any time any

marked deterioration of the physical condition were to indicate that the reduced wage is insufficient, then I shall be the first to make a revised recommendation.

The reduced scale of wages. Sir Richard Temple in reply to Dr. Cornish.

6. But I must advert for a moment to certain parts of the argument of the Sanitary Commissioner of Madras which seem to amount to this, that because there is mortality among the recipients of gratuitous relief, who are admitted to particular relief camps, therefore the wages of relief labourers must be insufficient. Whether the Sanitary Commissioner intends to convey this idea I know not, but something of the sort would, I apprehend, be gathered by ordinary readers of that which he has written. Therefore I have to explain that there is no connexion whatever between recipients of gratuitous relief on the one hand and the recipients of relief wages on the other. The gratuitous rations allowed to the inmates of relief camps have nothing whatever to do with the wages paid on relief works. The inmates of these camps who are admitted there as being unable to work are a class totally different from those who are admitted to the relief works as being able to work. Inferences deduced from the condition of the recipients of gratuitous relief are wholly irrelevant if attempted to be applied to the condition of relief labourers. If unhappily there be mortality among the inmates of relief camps, it by no means follows that there is any mortality among relief labourers. In point of fact there is no mortality among relief labourers except from cholera, small-pox, or other diseases, and when sometimes cholera has stricken and dispersed large gangs of relief labourers, there has never been any reason to suppose that the scourge arose from want of food. Again, if notwithstanding scientifically arranged diet, the condition of the inmates of relief camps continues bad, no amelioration whatever could be afforded by raising the wage of relief labourers who are a totally different class. These poor inmates have never gone to relief works at all. Indeed the very reason of their admission to the relief camps is this, that they are incapable of going to relief works. They are diseased or infirm, or being indisposed to work have wandered about, or passing by means of relief close at home have wandered to a distance.

7. Being thus helpless for one reason or another they are picked up and taken care of, but when picked up they are often beyond the reach of human aid. No analogy therefore drawn from these persons can possibly be applicable to relief labourers; and to mention the two cases with any sort of parallelism and in any kind of connexion would be to produce confusion of ideas and other misapprehension.

8. If indeed persons who were pale on being admitted to relief works were to become thinner and thinner and weaker and weaker till at last they had to be drafted off to gratuitous relief camps as unfit to work, then that would be a reason for reconsidering the wage, but this is just what has not occurred, and is not occurring. If I saw or knew any signs of it occurring, then I should be the first to move. Many relief labourers indeed have left the works of their own accord, not so much however because the wage was reduced, but rather because task-work was enforced, or because the scene of labour was removed to a distance from their homes.

9. How it happens that so many of the destitute poor sank so low before being taken up for gratuitous relief is a question which need not be discussed in this minute. I may reiterate however that the proper remedy lies in the institution of house-to-house visitation throughout the distressed districts, and from the time of entering the Madras Presidency I have never ceased to urge upon the Government and the local authorities the necessity of such a visitation. And indeed this visitation has generally been instituted. But that it has not always been perfectly carried out is proved by the mortality which has occurred, or still occurs, in some of the relief camps.

No. 219.

CIII.—MINUTE by SIR RICHARD TEMPLE, dated 18th April 1877, regarding the present condition of Relief Affairs in the District of Madura. No. 245.

I have paid a second visit (13th to 16th April) to the Madura district to see the Collector, Mr. MacQuhae, and some of his officers, because, as already stated in the memorandum of the 24th January, the month of April is likely to be a critical season in determining whether there is to be distress or not in that season. By the 15th of April some of the ordinary spring showers had fallen, causing some partial revival of agriculture, but except in one place (Periakolum, at foot of the Pulnee Hills), there had not been enough rain to place the district or any part of the district beyond the reach of distress in May.

Madura district,

2. The grain markets continue to be well stocked; the main source of supply is the port of Negapatam, though supplies come also from Tuticorin. In fact, it is the strong

demand in Madura that attracts the grain which might otherwise have gone from Negapatam to Mysore. At present the grain goes in the Mysore direction as far as Trichinopoly, and is thence diverted to the Madura district.

3. Meanwhile, the proprietary ryots seem to be bearing up well against the consequences of the long-continued drought. Either they have material resources of their own, or they possess credit whereby they can obtain such resources. Field labourers, notwithstanding the want of labour in the fields, appear to receive some support from their employers; but doubtless one great means of support for this class is emigration to Ceylon, which appears to have attained during this year nearly double its ordinary proportions. I could not learn that the excess number who had gone to Ceylon are faring badly, though perhaps they are not receiving so much remuneration as would have been given had the numbers been less. There is, of course, the usual proportion of the poorest classes, but it is understood that they are receiving some support from private charity.

4. The relief labourers are as yet but few in number. Care has been exercised by the Collector to prevent the number increasing unnecessarily, and the task-work is being strictly exacted. It would have been better, perhaps, if the works had been placed altogether under the Public Works Department. The assistance of that Department, however, is used for measuring up the task-work. Arrangements are made for giving all the gratuitous relief that is really needed, though happily the amount needed is as yet but little. Relief centres in sufficient number have been established. On the whole, I should think that the consequences of the drought are being prudently and firmly dealt with by the Collector, and at present I have nothing further to suggest.

No. 220.

No. 245.

CIV.—MINUTE by SIR RICHARD TEMPLE, dated Cuddalore, 18th April 1877, suggesting the Use of Coal on the Madras Railways as some check against the Destruction of Forests of the Madras Presidency.

Rainfall affected by destruction of forests.

There is a point connected with the supply of fuel to the several railways of the Madras Presidency which has a bearing upon the rainfall and the prospects of future harvests, and which I desire to represent to the Madras Government as follows:—

2. The failure of the periodical rains, and the consequent loss of crops, seem to be becoming more frequent in Southern India. This circumstance is attributed by many, with much show of probability, to the gradual denudation of the forests with which the country used to abound. The effects are felt throughout the Presidency generally, but more particularly in those tracts which adjoin the sources or upper courses of some of the rivers, upon which irrigation works, great or small, depend. One potential cause of this denudation has been, and still is, the demand of fuel for the consumption of the locomotives on the several railways.

3. As an instance out of a great many, I would mention that at this moment there is understood to be a contract between the Madras Railway Company and a Native contractor for the supply of a very large quantity of wood fuel—a quantity large enough to cause a heavy drain, if not an utter exhaustion, of the particular forests from which the supplies are drawn. It unfortunately happens that these forests lie, as I understand, near the upper course of the Palar River. Their destruction doubtless tends to aggravate the uncertainty which hangs more and more over the water-supply of this river. And such uncertainty is peculiarly unfortunate, inasmuch as from this river are drawn the channels which fill an extensive series of tanks for irrigation in the districts of North Arcot and Chingleput. Seldom does this river descend in seasonable and propitious floods. One year it will come down with violent inundation demolishing its dams, tearing up its channels, breaching its tanks; another year it will leave them all high and dry. I merely adduce this as a type of what is going on too often and in too many parts of the country, and which is in part at least attributable to denudation of forests.

4. Of course there are difficulties arising out of private rights with reference to the preservation of forests. There are also many means of overcoming those difficulties. I am now addressing myself to one measure only for mitigating the evil, viz., the diminution of the demand which is at present so greatly stimulated by the railway requirements for wood fuel.

5. The question immediately arises, why should not the Madras railways burn coal in the same way as do the East Indian Railway, the Eastern Bengal Railway, the Great Indian Peninsula Railway, the Oudh and Rohilkhund Railway, and various of the State railways? The Madras Railway, it is true, does not pass through the heart of a rich

coal basin as the East Indian Railway does, nor does it touch a coal-field at any of its extremities, as the Great Indian Peninsula Railway does; but compared with any other of the railways mentioned it is favourably situated. It touches the sea-coast at Madras and Beypore, and at either of these ports it can land English and Australian coal at the same rate per ton as the Great Indian Peninsula Railway Company does at Bombay, or as both the southern lines do at Madras and Negapatam or Tuticorin. And although from a commercial company trading at its own risk, grave objections might be offered to

* NOTE.—And I cite the Madras Railway Company as a sample.

a course which will undoubtedly at first increase its expenditure on fuel, I have to repeat that this is a case* where present economy may, and in the opinion of most thoughtful men undoubtedly will, aggravate the calamity of famine in future.

6. The increased cost, as far as the Madras Railway Company is concerned, is likely, for many years to come, to fall upon the Government, and it may be possible to form an approximate estimate of its amount.

7. The cost of working 2,400,000 train miles per annum would, I am informed by Captain Bisset, be approximately Rs. 8,00,000 at the present cost of fuel to the Madras Railway Company. Considering the advantages of the two ports, it may fairly be estimated that the cost of working the same number of train miles with coal fuel only will not much exceed Rs. 9,00,000. And when local enterprise enters into the business of carrying coal from the fields of Bengal to the coast ports of Madras, it is not unreasonable to expect that the cost of Indian coal delivered at these ports (which is at the present time quoted at Rs. 22 per ton, or from Rs. 2 to Rs. 4 higher than English coal of rather higher cash value at the pit's mouth) will be so far reduced as to make coal fuel even less expensive to the Madras Railway than wood fuel is at the present time.

8. There are some minor advantages in the use of coal fuel which are too well known to require mention in this minute, although they are of some importance to economical working. And I conclude by reiterating my opinion that the interests of the Madras districts require a more careful guarding of the forests, especially the hill forests, from destruction, and that one practical way of checking this destruction would be to burn coal instead of wood on all the Madras Railway lines, and so stop entirely a heavy and constant drain on the forests and undergrowth of the hill-sides of the Madras country.

No. 221.

No. 21 of 1877.

No. 263

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Simla, the 19th April 1877.

Our latest information from the famine districts is contained in the following telegram from Sir Richard Temple, despatched from Arcot on the 17th instant, but referring exclusively to the Presidency of Madras.

"After telegraphing to Government India account of Negapatam trade, I visited Madura district. Situation of Southern Peninsula, including Madura and Tinnevely, is as follows:—Rain has begun falling in most parts, especially under Ghât mountains. Emigration to Ceylon affords relief. Agricultural classes possess resources. No general distress yet, but some slight scattered distress relieved with discrimination. Markets filled with grain from ports of Negapatam and Tuticorin. Neighbouring parts of Tanjore and Trichinopoly almost free from distress, but rain has recently ceased, and until it falls sufficiently, situation somewhat critical. In Salem and North Arcot considerable scattered distress relieved by village visitation. Central relief camps still unpopular, this aggravates necessity for village relief. In districts near Madras wanderers and stray beggars still going about in bad condition. Whenever found they are relieved, but despite medical treatment they often die, and these cases affect public mind. Agriculture partly reviving after recent showers. In Bellary rain has fallen, but situation not likely to improve in that quarter at present. Relief labourers generally keep well. Better success beginning in despatch of relief labourers to Nellore Canal and Railway from Bellary towards Dharwar. Failure to utilise Public Works Department in relief works generally continues, and is to be regretted."

2. We enclose several papers received from Sir Richard Temple during the present week, of which the most important is the report made by Dr. Townsend,* Officiating Sanitary Commissioner with the Government of India, regarding the physical condition of the labourers employed on the relief works, with reference to the alleged insufficiency of the reduced rate of wages. In our Despatch of the 12th instant, we stated the

* No. 196.
Question of
the suffi-
ciency of the
reduced scale
of wages.

As to sufficiency of reduced scale of wages.

conclusion at which Dr. Townsend had arrived, as communicated to us by telegraph, viz., that the reduced rate is sufficient to support the labourers in fair condition, provided that care is taken that the individual recipient is the only person supported on it. The grounds of this conclusion are fully stated in Dr. Townsend's report. It is based on an inspection of gangs containing some 32,000 persons (34,000 was the number erroneously given in our last Despatch, owing to some error in the telegram) in the districts of Sholapur, Bellary, Cuddapah, and North Arcot.

At Sholapur the labourers employed under the Public Works Department were in good condition, men, women, and children, and there was no doubt on the part of the officers superintending the works that the wage was quite sufficient for the support of the labourers in health. The labourers on the Civil works were in a less satisfactory condition; but a large proportion of them were above middle age, and they had come on the works in January in an enfeebled state. Dr. Townsend thinks it probable that at the best of times they were below the average physique.

At Adoni, in the Bellary district, the labourers, as a rule, were in fair condition, and, in the opinion of the relief officers, they had not deteriorated since the reduced rate of wage had been in force. There were here and there weakly and feeble people; but these exceptions consisted of persons who had never been in good health or condition, or it was found on inquiry that they shared their wages with a child or other relative.

At Bellary, where task-work was exacted, the great majority were receiving less than the reduced rate; but there was no sickness among them, and the relief officers stated that these gangs had improved greatly in appearance since the works were established, and they certainly had not fallen off since the reduced rate of wage had come into force.

At Cuddapah, where Dr. Townsend inspected two bodies of labourers, one close to the town, which he visited in company with Dr. Cornish, the Madras Sanitary Commissioner, and on which the women greatly outnumbered the men, the people were in appearance little, if at all, below the standard of health common in the town populations of this country. In the other gang, composed chiefly of the agricultural population of the surrounding villages, the appearance of the people "was very good." A very large number of the men and women were as stout and healthy looking as they could be in the best of times. Here and there thin and weakly persons were observed; but on inquiry it did not appear that their weakly condition was attributable to want of food. The relief officer stated that when the people received the higher rate of wages, they did not spend more on food than they do now, but saved the difference, and they have not deteriorated in condition since the wage was reduced.

At Vellore, in a relief gang consisting of 1,600 people, who had been for a time on the reduced rate of wages, which apparently had been recently raised, the people were in fair condition, and, as far as Dr. Townsend had been able to ascertain, "they did not deteriorate or show signs of weakness during the five or six weeks that they were on the reduced rate of wages."

3. The facts stated in the foregoing extracts from Dr. Townsend's report appear to us to justify the conclusion at which he has arrived, that there are not yet any sufficient grounds for any general raising of the relief wage rates in the Madras Presidency. The Madras Government have very properly directed, as Sir Richard Temple points out in the 5th paragraph of his minute, that relief officers shall treat specially all cases of relief labourers who from any cause have fallen into a reduced condition of body. They have also directed that the relief wages shall be paid daily. If these instructions be duly enforced, and if care be taken to carry out a systematic house-to-house visitation in the villages, and to search out wanderers on the high roads, as has been frequently suggested by Sir Richard Temple, and ordered by the Government of Madras, we see no reason to doubt that the objects which the Government have in view, viz., the saving of life and the prevention of severe suffering, may be accomplished without any general raising of relief wages. At the same time we do not overlook the fact that the recent reports of the Madras Sanitary Commissioner contain very lamentable descriptions of the condition of the people at some of the places visited by him. We have requested the Madras Government to communicate to us the result of the inquiry directed in their orders* on Dr. Cornish's report, with reference to the unsatisfactory physical condition of many of the relief labourers at Maddanapalli, where the reduced rate of wages had not been introduced.

4. With reference to the remarks made in the 7th paragraph of the Despatch addressed by the Madras Government to your Lordship, under date the 7th instant, to the effect that no communication had been made to them regarding Dr. Townsend's

* Reported to Secretary of State in Madras Despatch of 7th April, No. 25.

deputation, we have explained to that Government that Dr. Townsend not having been sent on an independent mission, but merely having been placed under the orders of Sir Richard Temple to aid him in conducting certain inquiries which he desired to institute in the two Presidencies, it was not deemed necessary to make any communication to either Government on the subject of Dr. Townsend's deputation.

5. The prospect of the supply of grain to the ceded districts from the north, as explained in Captain Bisset's memorandum of the 31st ultimo, appears to be satisfactory.

6. Reference has more than once been made, in the correspondence regarding the famine in Madras, to the difficulty which appeared to be experienced in that Presidency in devising large works on which the relief labourers could be employed. The only works of magnitude which have been proposed are the East Coal Canal, the railway from Bellary towards Hubli, and the extension of the railway from Conjeveram to Chingleput. To these may perhaps be added the doubling of the railway line from Madras to Arconum. Recently, on a suggestion from our Public Works Department, we asked Sir Richard Temple for his opinion as to the expediency of employing relief labour on the earth-work of three short branch railways which were proposed some years ago for connecting the Madras Railway with the towns of Arcot, Vellore, and Salem. His reply, which is contained in his minute of the 6th instant (No. XCVII.), is adverse to the proposition. He does not consider these lines to be adapted as relief works. The amount of earth-work and ballast is not considerable. It is doubtful whether the work could be begun before the first week in May, and if good rain falls in that month, it is probable that relief labour would not suffice to finish even the banks and ballast; nor does Sir Richard Temple consider that it would be practicable to organise large gangs of skilled relief labourers (such as stone-cutters of the Waddah caste) for employment on these lines in time enough to do any considerable quantity of work before the rainy season begins. These objections appear to us to be conclusive against the adoption of the works in question as relief works, at all events, at the present. Should the famine unhappily last longer than we at present anticipate, the question may have to be reconsidered.

Difficulty in devising large works in Madras.

7. Sir Richard Temple in his short minute on the present condition of Mysore (No. XCV.)* repeats the favourable opinion expressed by him on the 14th February last, regarding the progress of relief administration in that province. The labourers on relief works are all employed on piece-work at rates somewhat cheaper than the piece-work rates of the Public Works Department in ordinary years. They can earn in this way enough to support themselves, and are in fairly good physical condition. Villages are really visited, and patels (village headmen) are kept up to their duty by responsible officers, whose weekly diaries show what is being done, and how useful the village relief is.

Mysore relief administration.

*No. 206.

8. In connexion with Mysore, we enclose a correspondence which has passed between the Chief Commissioner and the Government of Madras, regarding the incidence of certain charges incurred in affording relief to inhabitants of Mysore who had migrated into the adjoining Madras districts, together with a minute recorded on the subject by Sir Richard Temple. We have not received any communication on the subject from the Government of Madras, and at present no orders appear to be required.

No. 161.

9. The following extract from our telegram of the 14th instant gives the numbers of persons on the relief works, and on the receipt of charitable relief according to the latest returns:—

"In Madras Presidency relief labourers increased to 693,000, and charitably relieved to 114,000; latter increase chiefly young children. In Mysore 75,000 on works, and 52,000 charitably relieved. In Bombay further increase to 256,000 on works; 62,000 charitably relieved."

We have the honour to be, &c.

(Signed)

F. P. HAINES.

ALEX. J. ARBUTHNOT.

No. 222.

Revenue, No. 32.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 19th April 1877.

Para. 1. The Despatch of your Excellency in Council, dated 2nd March, No. 13, of 1877, giving a summary of the matters which had engaged the attention of your Government in connexion with the famine in Southern and Western India during the week ending 27th February, has been considered by me in Council.

No. 133.

2. I approve of your resolution to sanction the earth-work of the railway from Bellary to Hubli as a relief work, on the understanding that your Government is not pledged to carry on the line to Karwar.

3. The equalisation of the through rate for grain from the port of Negapatam, in Tanjore, to Bangalore, and the suspension of port dues at Negapatam in the case of vessels importing grain equal to a quarter of their whole cargo, will, I trust, greatly diminish the difficulties now experienced in carrying grain into the interior. Such also will be the effect of doubling the line from Ambatur to Arconum. It is also to be hoped that some of the grain now sent from Calcutta, Burma, and elsewhere to Madras may be shipped to Negapatam, and thus find its way to the distressed districts in the south of the Madras Presidency.

4. The intelligence received from Sir R. Temple relative to Nellore, Bellary, and Tinnevely, and also to the spring crops in Cuddapah and North Arcot, is, on the whole, satisfactory.

5. I have already, in my Despatches of the 15th March and 6th April, Nos. 24 and 28 of 1877, expressed my opinion that, while the utmost efforts are made to preserve life, Government relief should be accompanied by such conditions as to prevent it being accepted by any but the really destitute. I concur, therefore, with the principles which have guided you in your instructions upon this subject to the Government of Bombay.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 223.

Nos. 227.
256.

No. 375, dated Simla, 19th April 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF MADRAS, Revenue Department.

The deputation of Dr. Townsend.

With reference to the remarks made in paragraph 7 of the Despatch addressed by the Madras Government to the Secretary of State under date the 7th instant, No. 25 (Miscellaneous), to the effect that no communication had been made to them regarding Dr. Townsend's deputation, I am directed to explain that Dr. Townsend not having been sent on an independent mission, but having merely been placed under the orders of Sir R. Temple to aid him in conducting certain inquiries which he desired to institute in the two presidencies, it was not deemed necessary to make any communication to either Government on the subject.

No. 224.

Nos. 225.
245.

MEMORANDUM by MR. C. BERNARD respecting the CONDITION of AFFAIRS in the SOUTH ARCOT DISTRICT and CUDDALORE, 19th April.

South Arcot and Cuddalore.

Sir Richard Temple met in the South Arcot district the Collector Mr. Hughesdon, the Sub-Collector Mr. Wallace, the Head Assistant Mr. Thomson, as well as the Collectorate Sheristadar and other Native officials.

2. Sir Richard Temple also visited Pondicherry, and learnt that severe drought had afflicted the French territory, and that gratuitous relief was being distributed to a considerable number of persons. He did not understand that relief works had been opened.

3. The taluks of South Arcot, in parts of which there is risk of severe distress being felt, are—

Trinomalai,
Tindevenum,
Kallukoorchy,
Tricaloor,
Vridachellum,

where the rainfall last year failed, where there is comparatively little "wet" cultivation, and where the crops were extremely short. As yet there has been no severe distress, but if the rain holds off till the end of May trouble must arise. Relief works were opened in parts of Tindevenum, Trinomalai, and Vellapoorum about the end of January, but people would not come readily to work, so very little was done, and during the last two weeks there has been small demand for relief employment. One relief centre was opened for distributing gratuitous relief in Trinomalai. Some little relief was also given

about a month ago in Villapoorum by private charity. But this has since stopped as the demand slackened; now that the late rice, the ragi, and ground-nut is being harvested. A good deal of work is being given by the South Indian Railway to people in the Vellapoorum, Cuddalore, and Chellumbrum taluks; a very little is being given in Tindevnum. All this helps to support the labouring poor.

4. The Public Works Department has projects, namely, repairs of tank, dams, and irrigation channels on hand to do. The grant for the whole year for the district is about one lakh of rupees. Of this perhaps Rs. 15,000 would, under ordinary circumstances, be spent during May. The work is done by contract; but the village headmen are usually the people to whom contracts of this kind are let. The Public Works Department could undertake and supervise works costing much more than this sum of Rs. 15,000, provided only that certain restrictions were foregone, which compel the range officer to inspect and pay for every work himself.

5. There is plenty of food in the district, and the dealers have stores of imported rice. Prices are high. But there has not hitherto been any starvation or any famine anywhere. The jumabundi (annual verification of cultivated holdings) is now going on everywhere; Revenue Inspectors and higher Revenue Officers are seeing a great deal of the people at their villages; and the district officers are satisfied that there is not at present anything worse than distress in any part of the district. So far as they can judge, the best way of preventing increase of distress would be for the Public Works Department to push on at once its works in the worst taluks, and to keep sufficient works going until the rain sets in. If the grants made to the District Engineer from ordinary sources should be nearly exhausted, then more grants might be given, debitable to famine. Under this system, if adopted, relief labour would be utilised to the utmost on necessary district works. The work would be done by petty contract, but the people needing relief would get the work, and at present the people are strong enough to do such work at ordinary contract rates.

6. Major Mead, District Engineer, considers that he could, without additional engineering establishment, do all that may at present be needed. If further grants were made, he could spend them most usefully on much needed irrigation repairs. But he would require discretion to relax the present rules as to completion certificate for works costing less than Rs. 1,000 a piece. And also he would want to have temporarily in abeyance the order which forbids the District Engineer and Collector to sanction any petty irrigation repairs for which the estimate exceeds the average annual revenue from the work. The District Engineer would of course be careful in acting upon the additional discretion allowed him. But unless it be granted, there is risk that, if much relief employment is suddenly wanted, we may have to drift, in South Arcot as elsewhere, into the practice of leaving the relief works to be managed by professionally unskilled and (at time of jumabundi) hard-worked Civil officials.

No. 225.

CV.—MINUTE by SIR RICHARD TEMPLE, respecting the condition of Affairs in the South Arcot District. No. 245.

20th April 1877.

In forwarding the accompanying memorandum regarding my recent visit to the district of South Arcot, I have to record some few brief remarks. South Arcot district.

2. Though the south-west monsoon of 1876 failed here as elsewhere, still there was a good fall of rain at the end of the north-east monsoon in the south-east part of the district, and saved especially the taluks of Cuddalore, Vellapoorum, and Chellumbrum. The south-western and the central parts of the district received but little rain on this occasion. Being near to the coast taluks which received rain and to the Coleroon and Cauvery basin where the crops have been good, these parts have not yet suffered distress. And hope was entertained that if the April showers should prove propitious, distress might be staved off until the next monsoon. As yet however (20th April) these showers (which have fallen favourably to the westwards) have held off in this district, one taluk only (Kallukoorchy in the south-west) having received any rain during the spring season. They may yet come; of course if they do, trouble will be averted. But if they do not come by the middle of May, and if the south-west monsoon should be late, and it is usually late in this quarter, not arriving till July, then some severe distress can hardly be avoided in certain parts of this district.

3. As yet the district authorities have prudently refrained from giving any encouragement to the agricultural classes to resort to relief. In some taluks satisfactory reports

are heard of the efforts made by the people themselves to save their crops by digging wells. That they had the means of sustaining themselves during the winter months is proved by the fact that, when some small relief works were opened tentatively, they did not avail themselves of the opportunity.

4. If relief works have to be opened at all, I would earnestly recommend that this be not done through the Civil officers who have so much else to attend to, but should be entrusted to the regular Public Works Department, which in this district is strongly represented by the Irrigation Engineers. There is much work for them to do by way of repairing and improving the tanks, and if they undertake this they will be able to afford all the relief that is needed for the able-bodied, who will be thus employed on works not scattered but concentrated and under professional supervision.

5. To the Civil officers would then be left what may be described as their legitimate work, that is, visiting the villages in search of destitute and helpless persons, affording gratuitous relief to some, and assigning light work to others, who though weakly can yet do something.

6. We need not yet, however, abandon the hope that seasonable showers may yet ward off the threatened distress.

No. 226.

No. 245. CVI.—MINUTE by SIR RICHARD TEMPLE, respecting the Management of Relief Works in the North Arcot District through the Public Works Department Agency.

Madras, 20th April 1877.

North Arcot relief works. In continuation of my minutes of the 29th March regarding Bellary and Kurnool, and of the 10th April regarding Salem, the purport of which was to represent the expediency of placing relief works as much as possible under the regular Public Works Department, I desire to submit a similar representation regarding the district of North Arcot, which I have passed through once more, visiting the anicut over the Palar and the Cauvery Pauk Lake.

2. In reference to the apprehensions which arose during February or March regarding distress breaking out here and there in this district, relief works have been opened (not under professional officers, but such Civil officials as can be obtained for the occasion) in many and various places, and doubtless have done good so far as they have gone. But while appreciating the reasons which induced the local authorities to take these proceedings, I must yet represent that these numerous petty and scattered works are very much open to all the objections which have been elsewhere urged against relief works of this description, except that the wage having been reduced the temptation is so far lessened. But even now there are, I fear, hundreds, perhaps thousands, of instances of persons who avail themselves of these works, not exactly to keep off distress, but slightly to enlarge their narrow income,—for instance, men who still have some employment of their own at home, send their wives and elder children to the relief works close at hand, in order to make just a little money for the family. Besides this, the season is advancing, the spring harvest has been partly reaped, the demand for relief employment is slightly increasing. On the other hand there is still some spring harvest to be reaped. The spring showers have caused ploughing to be commenced in most parts of the district. And the spring harvest itself, which owing to the wells in which the district abounds is proving to be fairly good, will afford a considerable augmentation of the food supply. Notwithstanding all this, the numbers on relief works about 40,000, according to the latest information, have been mounting up and may mount higher still; thus the aggregate is becoming sufficiently large and serious to necessitate the consideration of the introduction of some further checks.

3. The obvious check is, of course, the placing of the relief works under the regular Public Works Department.

4. Already the Madras Government have ordered that petty relief works, within easy reach of the operations for the doubling of the railway line to Arcot, should be closed. This order will doubtless have the beneficial effect of compelling many able-bodied persons seeking relief to place themselves under the professional supervision of the railway engineers.

5. Similarly, I believe that the Government intend to order the closing of any petty relief works which exist near the railway line from Chingleput to Conjeveram, of which the earth-work is about to be commenced. Although this work pertains to the Chingleput district, possibly some able-bodied persons might be sent to this work from North Arcot district.

Should be under control of Public Works Department.

6. But in North Arcot the main point is this :—The Government, as I understand, have signified a wish that the irrigation works, repairs and improvement of tanks, and the like, should be pressed on as much as possible, and that the available funds appropriated to irrigation for the year should be made use of, as soon as possible, for purposes of relief, under the engineering establishments. There can be no doubt of the excellence of this policy. The only precaution necessary would be to provide that none should be thus employed save those able-bodied persons who are in need of relief. The Engineers might be directed to fill their rolls in the first instances with able-bodied persons selected from the Civil relief works. In that case it would be very desirable to instruct the Collector to draft off to the irrigation works under the Engineers all able-bodied persons who are now on the petty relief works. If any such persons, on being ordered, refuse to go, they might be discharged altogether, as evidently being not in need of relief. The effect of this would be excellent. And then the petty relief works would have but those who are weakly and who have from any reason a claim to indulgence, and the apprehension which now arises from the recent augmentation of numbers on these works would be mitigated. I believe the Collector understands this already, and he may be perhaps acting on this principle. Still it might be well to order this explicitly.

No. 227.

No. 200, dated Tadputree, 21st April 1877.

From C. BERNARD, Esq., C.S.I., Secretary to Sir Richard Temple, to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA.

Nos. 253.
256.

At paragraph 9 of the Madras Government Despatch (No. 28 of the 14th April) to Her Majesty's Secretary of State for India, allusion is made to Dr. Townsend, the Sanitary Commissioner's visit to the Madras Presidency. And Sir Richard Temple directs me to lay before the Government of India certain explanations relating thereto.

Deputation
of Dr.
Townsend.

2. Dr. Townsend was deputed by the Government of India to advise Sir Richard Temple concerning the sufficiency of the reduced relief wage and its effect on the condition of the people. Dr. Townsend joined the mission when Sir Richard Temple was in the Bombay Presidency; and he inspected gangs of labourers at and near Sholapore. The long railway journey from Calcutta to Sholapore in the heat had, however, brought on an attack of dysentery, and Dr. Townsend was unable to do as much as he wished.

3. On the day Dr. Townsend entered the Madras Presidency, Sir Richard Temple wrote and informed his Grace the Governor of Dr. Townsend's coming and of the work he was to do in connexion with the mission. On the same day I informed Mr. Garstin, the Secretary to the Madras Government, of Dr. Townsend's arrival and of the inspections he hoped to make.

4. Dr. Townsend inspected some 30,000 labourers, and then drew up a report of what he had seen, and of the impressions he had received. A copy of that report with a minute recorded by Sir Richard Temple was immediately forwarded to the Government of Madras. And Sir Richard Temple arranged with his Grace the Governor that Dr. Townsend, whose early return to ordinary duty with the Government of India was much desired, should visit Madras and wait upon his Grace.

5. Meanwhile, Dr. Townsend had gone southwards to inspect certain Coimbatore gangs, regarding the physical condition of which there had been doubt. He was to have visited Madras according to the appointment already made on his way back from Coimbatore. But at that place he was again attacked by the same complaint which had afflicted him previously. And as the complaint did not at first yield to treatment, he decided not to go into Madras, but to return to Bombay at once. He at once intimated to his Grace the Governor's Private Secretary the reasons which had, to his regret, compelled him to leave the Madras Presidency without waiting upon his Excellency. And afterwards I explained more at length to Mr. Garstin, the Famine Secretary, the circumstances of Dr. Townsend's departure. Sir Richard Temple also explained to his Excellency the Governor the sickness which prevented Dr. Townsend from presenting himself at Madras.

6. Sir Richard Temple regrets much that Dr. Townsend should thus have been unavoidably prevented from waiting on his Grace the Governor of Madras, and laying before his Excellency the impressions he had received from his inspections of relief labourers in the Bombay and Madras Presidencies.

7. Dr. Townsend had, however, the advantage of meeting at Cuddapah, by special appointment and arrangement, the Sanitary Commissioner of Madras.

EXTRACT, paragraph 9, from the MADRAS GOVERNMENT DESPATCH No. 28 of 14th April 1877, to the SECRETARY OF STATE FOR INDIA.

Para. 9.—We have not been favoured with any intimation from the Supreme Government of the outline of the instructions given to Dr. Townsend, the Sanitary Commissioner with the Government of India, who left the presidency without having reported to us his arrival in it, or made any other communication with us. He did not visit the city of Madras or the camps in its neighbourhood.

No. 228.

Nos. 230.
245.

CIX.—MEMORANDUM by Mr. C BERNARD, regarding the PRESENT STATE OF RELIEF AFFAIRS in the CUDDAPAH DISTRICT, dated Tadputri, 21st April 1877.

State of
relief in
Cuddapah.

Mr. Benson, one of the relief officers of the Cuddapah district, met Sir Richard Temple at Tadputri on the railway line; he brought with him the Serishtadar who was acquainted with the relief statistics of the whole district.

2. There was good rain (averaging about one inch) over the whole district in the middle of last month (March), and there have been partial light showers since. One result has been that a certain small quantity of fodder has come up, and the cattle are not dying at the same rate as before, but many of the weakly animals have previously been carried off.

3. The numbers on relief for the second week of April are—

On relief works	-	-	-	-	80,000
On gratuitous relief	-	-	-	-	30,000

About 5,000 labourers in all have gone off to the Nellore Canal. Twelve annas a head (8 annas to the labourer and 4 annas to the recruiter) is paid under Government orders for every adult man who reaches the canal work; and he gets rations for himself and his

* NOTE.—This includes the labourers on the Chevair embankment under Mr. West, the railway engineer.

family on the road. In the Palampett taluk one half of the labourers are working under the Public Works Department,* and effort is being made to hand still more labourers over to professional officers. In Sidhout all the labourers are supervised by a Public Works Department overseer, who is now serving directly under Mr. Benson. Payments to these labourers are, however, made by the revenue officials on certificates furnished by the Public Works Department officers. On the Civil works some task is exacted; but the majority of people do their full task, the deductions for short work, amounting to barely two per cent. of the total wage. No figures are here available to show the proportion of labourers under Public Works Department's supervision in other taluks.

4. Regarding the condition of his labourers, Mr. Benson says that the men and women on the works seem to him to be generally in fair condition. But among the small children (on 3 pie per diem) he finds, especially at Kodoor, a considerable number of emaciated little creatures. Many of these were found on inquiry to have come on the 3 pie allowance within the last few days only. Perhaps they will come round on the 3 pie; meanwhile those who were very reduced have been handed over to the village headmen (reddies) to be fed at home. On the Chevair embankment the labourers were till recently on the 2 annas scale, but they were reduced to the 1½ annas rate about 20 days ago. Since the reduction took place, Mr. Benson has visited them twice, and he did not observe any sensible reduction in their condition. But then though the wages are reduced, these labourers now get the Sunday's wage, and also get the 3 pie allowance for children, whereas previously they enjoyed neither of these advantages.

5. Out of the number on gratuitous relief (30,000), nearly one-half are the 3-pie children on the works. For the rest there is a relief camp (in the Madanpally division, one of several centres for outdoor relief) at the head-quarters of each taluk. Additional relief camps are being erected in Mr. Benson's taluks. There is a first class relief camp at Cuddapah itself, where over 330 inmates are fed. The smaller camps are to hold 250 a piece; but as yet none of Mr. Benson's camps have more than 80 inmates, as they have only just been completed. A certain number of people, who cannot be brought into the relief camps, are being relieved through the village headmen in their villages.

6. The village relief is supervised by inspectors, of whom there are two to four to each taluk. But Mr. Benson fears that it is only very recently that the village headmen are fulfilling their duties. They are and always were prompt enough to relieve ryots and people of the middle class. But it is very difficult to make them look after and relieve the pariahs, although they are fully repaid for all their expenses, and though each reddy has an advance of Government money to meet such charges. The duty of the reddy is

to relieve on the spot the helpless, to relieve and send into the nearest camp such paupers as can be moved, and to send in weekly accounts of their expenditure. The inspectors, with their peons, go round and enforce these duties on the reddies. Each inspector has from 30,000 to 50,000 people in his circle. Mr. Benson has been on tour for ten weeks and has inspected many villages. He found in many places, especially in the larger villages, a small number of people of pariah caste who were much reduced by want. Such cases are, he hopes, being gradually picked up and relieved. But the most emaciated cases he has seen anywhere were the 3-pie children newly brought upon the works, to which reference has been made at paragraph 4.

State of
relief in
Cuddapah.

No. 229.

CVII.—MINUTE by SIR RICHARD TEMPLE, regarding the discharge of Paupers from the Relief Camps.

Gooty, 22nd April 1877.

No. 245.

There is one suggestion which I wish to lay before the Government of Madras, respecting the treatment and retention of paupers in the large relief camps. At the beginning of the distress it was no doubt quite necessary to confine wandering paupers and other non-labouring poor in relief camps, because the restrictions accompanying indoor relief are irksome, and prevent persons who are not absolutely in need from seeking (and even from accepting) admission to the camps. Moreover, the village relief system, which is still in many places incomplete, was not begun; and so there was little hope of the indigent poor being relieved anywhere except on relief works or at relief camps. And, as we know, there were in January, and are still, many thousands who seem to prefer the chances of wandering and begging to the moderate certainty of the relief wage.

The very
helpless
should be
removed
from the
relief camps
to their own
homes.

2. In most of the relief camps which I have visited, and notably in the relief camps round Madras, all that humane care and medical skill could, within reasonable limits, desire, has been done to improve the condition of the inmates of relief camps. In many cases there is marked improvement in the physical condition of the older inmates of these camps. But still the fact remains that the death-rate among the inmates of camps is terribly high; that such diseases as are engendered among gatherings of poor people often appear and reappear, and that the air and surroundings of these camps are very depressing. For the little children especially the life must be very depressing indeed. Some of these troubles will, I fear, be aggravated when rain and cold come on, and make relief camp life even less endurable than it now is.

3. When I thus point out the evils of relief camp life, I would not be understood to find any fault whatever with the humane and diligent officers who manage these camps. The experience of relief camps in Orissa during 1866 was the same. And I should anticipate that some of the very best of the relief camp officers feel how difficult it is for the poor creatures under their care to recover health and strength under the conditions of the relief camps.

4. The question then arises what remedy can be suggested. It seems to me that a remedy may be applied on this wise. Able-bodied people are drafted on to the works, and regarding them nothing further need be said. But the old, the cripples, the women burdened with children, and the children, cannot be drafted to the works. I would recommend that such people, when they are able to move, should be sent under proper arrangements to their homes, to be brought upon the village relief lists there.

5. At the homes of some of the inmates of the Madras relief camps, such as those who live in the Kalustri or Karvetnagar zemindaris, full reliance cannot yet be placed on the village relief arrangements which have been or are being organised; and people from these tracts cannot yet be sent home. But in the Chingleput district, in most parts of Nellore and Cuddapah, and in many parts of North Arcot such reliance may be placed on the organisation of relief circles, and on relief inspectors who enforce their duties on the village headmen (reddies or moonsiffs). And people belonging to these tracts might safely be sent home from the relief camps near Madras, and in the same way people might gradually be sent home from other relief camps, such as the Vellore, the Dhurmpuri, the Salem, and the Cuddapah relief camps.

6. The poor people could not be sent away suddenly or in large numbers. But the plan might be begun gradually; the inmates of the camps might be sent away a few at a time under care of a camp servant; and they could be made over to the relief inspector* of this circle, whose duty it would be to see that the poor people were brought upon the village relief lists.

* NOTE.—In all the worst districts the taluks are divided into circles containing 15,000 to 20,000 inhabitants each. And the inspector of each of these circles has more or less close relations with the village headman of his circle.

7. The District Collector and his officials would work in unison with the relief camp officer. And in this way the inmates of the camps would gradually be conveyed to their homes and would be cared for there. Eventually the survivors of the camps must be so sent back, and provided the village relief system is efficient, the sooner they go the better it will be for them. And it will also be to the advantage of the public treasury; for inmates of relief camps probably cost, all told, from 3 annas a head at the relief camps of Madras to $1\frac{1}{2}$ annas a head at the cheaper relief camps in the interior; whereas the village relief allowance proposed by the Board for Salem is only 1 anna per diem, while in no district it is more than $1\frac{1}{4}$ or $1\frac{1}{2}$ annas a day for adult men.

8. I recommend, therefore, that an attempt be made, on some such plan as is here suggested, to gradually draft, not only the able-bodied but the infirm and helpless poor from the relief camps to their homes. In regard to orphan children difficulty may arise; but this difficulty will have to be met under any circumstances; and the longer the parents are kept in relief camps, the larger the number of orphans is likely to become.

No. 230.

No. 245.

CVIII.—MINUTE by SIR RICHARD TEMPLE, dated Gooty, 22nd April 1877.

Passing through the Cuddapah district, I had the advantage of once more considering the returns of relief labourers and recipients of gratuitous relief, as presented by Mr. Benson, the Head Assistant Collector, and by the Collectorate Serishtadar.

2. The present number of relief labourers is 80,000, the lowest number was 67,000, the highest number in January was 204,000. In no district since January last has stricter care been exercised in preventing relief being given to those who do not need it, or in confining relief to those who really are in need. The vigilance and discrimination exercised in this respect seem to me to be very creditable to the Collector (Mr. Price). Considering, however, the comparatively good spring harvest which has been and is still being reaped in this district, and the fall of rain, timely though moderate, which has fallen in this quarter, I should think that much caution ought to be exercised in permitting the number of relief labourers to rise materially, unless indeed from the rain holding off, or from other cause, matters should take a turn for the worse.

3. On the other hand, my impression is that the numbers on gratuitous relief in the interior of the district (some 30,000 persons*) is probably not large enough, and that the system of village inspection and relief is still incomplete. I fail to gather favourable accounts of the conduct of the village headmen in this respect. As the staff of European officers is now so strong, there ought to be no difficulty in seeing that the village headmen do their duty. This seems to me more necessary in the Maddanpally subdivision of the district than anywhere, from which quarter accounts of distressed individuals scattered here and there are received.

4. An examination of the return of relief work makes me apprehend that they are too numerous in some parts of the district, especially in the north-western taluks; if they could in such places be more concentrated that would facilitate check and control.

5. Some of the relief works are really under the control of Public Works officers, but most of the works are not so. In the latter works, which constitute the great majority, the Public Works Department merely helps and advises, but does not take actual charge of the works. This is, as it seems to me, to be regretted, especially as there are three ranges or executive divisions in the district in each of which there is a professional establishment. I would recommend that this establishment be utilised by being ordered to take charge of as many of the relief works as possible.

No. 231.

No. 245.

CX.—MINUTE by SIR RICHARD TEMPLE after Inspection of certain Relief Gangs at Gooty and Goondakal.

Bellary District, 24th April 1877.

Relief gangs of Gooty and Goondakal. Having again paid a brief visit to a part of the Bellary district, I have to submit the following remarks:—

2. One gang (500 strong) of relief labourers employed on the railway at Gooty under professional supervision, on reduced wage and good tasks, were found by me to be in very fair condition. Another large gang (1,000 strong) inspected by me at Goondakal consisted of 800 women and children in fair condition (with some few exceptions), and

of 200 men of whom one-third were in indifferent condition, some even in bad condition, most of these latter being new arrivals. From information received from Bellary and Adoni, I learn that in several gangs there are found some persons in weakly condition. These points will doubtless cause some to think that the relief wage ought to be raised. Looking, however, to Dr. Townsend's recent evidence as to the good condition of the able-bodied labourers on the reduced wage, which is again confirmed by my own recent observation, and to the importance of not holding out any temptation to able-bodied men to come on relief who might be otherwise able to sustain themselves, I would still strongly deprecate raising of the wage to the able-bodied.

3. In some places the Sunday wage is not allowed, as no work is done on that day. It is in these cases supposed that the men have some other slight means of support besides their relief wage. If, however, there be any doubt on this point, then the Sunday wage might be allowed on the ground that the subsistence afforded by the wage is as much needed on Sundays as on week-days. But as it is inconvenient to pay the wage on Sundays ($1\frac{1}{2}$ annas), then in commutation $\frac{1}{4}$ of anna might be paid on each week-day, raising the wage to $1\frac{3}{4}$ annas.

4. If any person now in the gangs fall into bad health, or come on to the works in a low state, the existing orders amply provide for their being specially treated either by extra special allowance or by nominal work.

5. But it is very important at this season to avoid offering more than $1\frac{1}{2}$ annas a day to the able-bodied people outside, who are possibly considering in their own minds as the season advances whether they will or will not come on to the works.

6. The number of persons who are unable to work and who are seeking for food is increasing fast. I believe that the system of relief centres and village relief is being fairly well worked in this district. But the subject is so important that I must be excused for making reiterated mention of it.

No. 232.

CXI.—MINUTE by SIR RICHARD TEMPLE, bringing to Notice the State of Affairs on the Bellary-Dharwar Railway. No. 245.

Bellary District, 24th April 1877.

Having had a share in recommending the commencement of the earth-work of the railway from Bellary towards Dharwar, and having inquired much during my visit to Bellary (on the 26th March) as to the possibility of making a speedy commencement, I deem it my duty to report to the Madras Government that, from what I learn while passing through the district, the commencement is apparently not being made with the expected rapidity by the local Engineers. I am under the impression that the Civil officers have got, or could immediately get, from 10,000 to 12,000 relief labourers ready for this work, and the expectation was that at least this number would be employed. Whereas not more than 3,000 persons are actually being employed. This is excellent so far as it goes; but as much more is needed, it would seem to follow either that some further instructions from Government to the local Engineers, or else that, if such instructions have been given to these officers, they have not yet been sufficiently followed. As so much stress was laid by the Madras Government on the undertaking of this work as a means of employing and tasking relief labour under professional officers, I trust I shall be excused in bringing this subject again to notice.

Bellary-Dharwar Railway.

2. It is the more necessary to press the point, as this is the only large work in the district where relief labour can be professionally tasked, no action having apparently been taken on my minute of the 10th April recommending that relief labourers be drafted on to certain selected public works,—a suggestion which I would still commend to the consideration of the Government of Madras.

No. 233.

CXII.—MINUTE by SIR RICHARD TEMPLE, suggesting the deputation of an experienced European Officer to the Western Taluks of the Bellary District. No. 245.

Bellary District, 24th April 1877.

My last visit to the Bellary district brought to recollection a point which I have often heard discussed namely, the need of some European officer being deputed to inspect the relief operations in the western taluks of that district, namely, Harpanhally, Havind-Hudgully, and Kudlegi. These operations are no doubt under able Native officers, and

European officer required for western taluks.

the distress is not very bad apparently in that quarter. Still the work would be all the better for a visit from an experienced European officer vested in the principles and practice of relief. It is probable that such an officer would effect good as regards the discharge of persons not fit objects of relief, the tasking of the relief labourers, and the prevention of waste or fraud. All the other parts of the district have the advantage of European supervision save these western taluks. I would represent to the Madras Government the expediency of despatching thither such an officer if he could be spared, as someone might probably be spared for a time at least. I understand that the Collector, who has been for some time past in camp, intended to visit the taluks, but he has not (I believe) done so yet.

No. 234.

No. 245.

CXIII.—MINUTE by SIR RICHARD TEMPLE, comparing the per-centage of relief recipients in Kurnool with those in the Bombay Deccan, and suggesting the concentration of relief works under Public Works officers.

Goondakal (Bellary District), the 24th April 1877.

Large number receiving relief in Kurnool district.

Having again paid a brief visit to a part of the Kurnool district, I find the numbers of persons on relief wages and gratuitous relief together to be so high, that I must invite the consideration of the Madras Government to the points set forth in my minutes of the 17th March and of the 29th March. These points are doubtless well known to the Madras Government, and they certainly have been brought to the notice of the local authorities. But as there is no change in those respects perceptible, I must again represent the case.

2. The per-centage of recipients of relief of both kinds in the Kurnool district may be compared thus with the per-centages in other districts of the Madras and the Bombay Presidencies :—

Distressed Districts.				Total Numbers on Relief Works and on gratuitous Relief during the First Week of April.	Per-centage of Persons receiving Relief of both kinds on the Total Population of the District.
Madras Presidency	Kurnool	-	-	236,000	24½ per cent.
	Bellary	-	-	269,000	17 "
	Cuddapah	-	-	80,000	6 "
	Nellore	-	-	69,000	5 "
	Chingleput (inclusive of Madras city)	-	-	29,000	2 "
	North Arcot	-	-	32,000	1½ "
	Salem	-	-	58,000	3 "
	Coimbatore	-	-	27,000	1⅔ "
	Madura	-	-	12,000	½ "
Bombay Presidency	Tinnevely	-	-	3,000	⅓ "
	Sholapur	-	-	49,955	7 "
	Kaladgi	-	-	27,120	3½ "
	Part of Poona	-	-	57,691	6⅛ "

3. Many of the Madras districts have been so economically managed from the first that it is difficult to make a comparison. But Kurnool may be fairly compared with Bellary, in which the failure of harvests has been worse, and in which there was quite as much liberality of relief at the outset as in Kurnool. There cannot be any good reason why the per-centage should be 24 in Kurnool, while it is only 17 per cent. in Bellary. Indeed, if the per-centage (17) in Bellary be deemed reasonable, the per-centage in Kurnool ought to be under 15.

4. The contrast with the Bombay Deccan is still more striking. It is, I believe, impossible to account for the difference in the extent of relief save by assuming that there is a difference in system. And what is that systematic difference? Why! just this, that in the Bombay Deccan the relief labourers are systematically tasked by engineering establishments and under professional supervision, while in Kurnool they are not so tasked. I have been unable to ascertain the precise value of the work done by the Kurnool relief gangs, but I understand that it costs many times as much as it would in ordinary times under the Department of Public Works, and that the tasks are very light.

In the Bombay Deccan the Department of Public Works has real control over the relief labourers, while in Kurnool it has not. This matter was represented to the Madras Government by my minute of the 29th March. I do not know exactly how far the recommendations therein submitted have been approved.

Largenum-
ber receiving
relief in
Kurnool
district.

5. The per-centage of relief recipients to the whole population in the Kurnool district may be better seen from the details of the "taluks" or divisions into which the district is divided:—

Taluks.	Population according to Census of 1871.	Number of Persons		Total.	Per-centage of Relief Recipients to Population.
		On Relief Works.	On gratuitous Relief.		
Ramalkota - - -	146,195	40,391	16,060	56,451	38 $\frac{1}{5}$
Nandikotkur - - -	101,866	12,330	2,205	14,535	14 $\frac{1}{4}$
Nandial - - -	107,320	31,103	5,750	36,853	34 $\frac{1}{3}$
Sirwell - - -	71,066	16,449	2,776	19,225	27
Koilkuntla - - -	98,844	32,679	5,409	38,088	38 $\frac{3}{5}$
Pattikonda - - -	173,434	26,289	10,652	36,941	27 $\frac{1}{4}$
Cumbum - - -	123,042	46,346	3,172	49,518	40 $\frac{1}{5}$
Markapur - - -	92,665	11,178	817	11,995	12 $\frac{5}{6}$
	914,432	216,765	46,841	263,606	28 $\frac{3}{4}$

6. The numbers on gratuitous relief are probably not too high; the excess must be in the numbers on relief works, which is specially apparent in the "taluks" of Cumbum, Koilkuntla, and of Nandial. Perhaps in Ramalkota the apparent excess may be accounted for by the Kurnool city being situate therein; otherwise there also the per-centage is very high.

7. The measure primarily to be suggested is the concentration of the gangs on public works (specified in the minutes of the 17th and 29th March) under Public Works officers. Then they will be sent to some longer distance from their homes than at present, and will be better tasked that at present. The effect of this on the numbers of the labourers would, I am sanguine, be soon apparent.

8. In submitting these remarks I am far from being forgetful of the efforts made by the Collector and his officers to enforce system and economy; but it is impossible to overlook the statistical facts which show that some further efforts are still necessary.

No. 235.

CXIV.—MINUTE by SIR RICHARD TEMPLE, comparing the system of tasking relief labourers in the Madras and Bombay Presidencies, and suggesting the utilisation of the Public Works officers in Madras on relief works in certain districts.

Bellary District, the 24th April 1877.

Before quitting the Madras Presidency, I would beg to represent to the Madras Government one remarkable difference between the system heretofore pursued in that presidency and the system followed from the first in the Bombay Presidency, and which is being followed there more and more. Though the point has previously been brought by me to the notice of the Madras Government, it is so important that I may be excused representing it once more.

Public
Works offi-
cers should
superintend
relief works
in Madras.

2. There will doubtless be no question as to the superiority of the plan whereby relief labourers are tasked under a settled departmental system by professional establishments specially trained for the business, over the plan by which they are tasked by Civil officers not trained to the business. In the former case the tasking will be strict and hard and will be endured only by those who are in need; in the latter case it will often (though not always) be either light or nominal, and will be undergone by many who are not in need.

3. In the Bombay Presidency the plan has been so advanced that now almost all the relief labourers are under the Public Works Department. Out of 287,760 persons in all, 259,057 are under that department, and only 28,703 are under Civil officers.

4. In the Madras Presidency, out of 716,507 in all, there are not more than 83,000*			
*East Coast Canal	-	-	40,000
Arconum doubling	-	-	15,000
Bellary-Dharwar Railway	-	-	3,000
Salem district	-	-	25,000
Total	-	-	83,000

Some may be very shortly expected on the Chingleput Railway, and some also on the irrigation works of North Arcot.

It is especially remarkable that in the two districts showing the largest numbers, Bellary and Kurnool, having both together 422,784 persons, the whole are under Civil officers, and lightly tasked, with the exception of the 3,000 on the railway from Bellary towards Dharwar.

5. I am sure that this difference in system is the main cause of the difference in the proportion of relief labourers to the whole population between these two districts on the one hand, and the Bombay Deccan on the other hand. The per-centage of relief labourers on the whole population is in Bellary $12\frac{3}{4}$ per cent. and in Kurnool $21\frac{1}{4}$; while (Bombay Presidency) in Sholapur it is only 6.69, in Kaladgi 4.8, and in the distressed part of Poona 10.5.

6. There is no want of engineering and professional establishments in the districts of Bellary, Kurnool, and Cuddapah; on the contrary each District is under a district Engineer, whose executive charge is divided into so many "ranges," in each of which there is an Engineer officer. But, as shown by me in former minutes, these excellent and competent establishments only help in a general way, and have no actual charge of any relief work. They might be utilised fully for this important purpose at any moment the Madras Government may see fit.

7. The same remarks apply equally to North Arcot, and would similarly apply to South Arcot if any relief works shall have to be opened there. They apply too in a considerable degree to Nellore.

No. 236.

Nos. 240.
256.

MEMORANDUM by CAPTAIN W. S. S. BISSET, R.E., on Special Duty, dated Dhond, the 25th April 1877.

Movements
of food
grains in
Madras.

The three accompanying statements abstracted from returns furnished, at Sir Richard Temple's request, by the officers of the Madras Railway Company, contain statistics of considerable interest to the mercantile world.

The first exhibits the movements of food grains on the Madras Railway for March 1877, the second shows month by month the quantity of food grain delivered by rail into each district, and the third exhibits the total quantities received in each district from the 1st August to the 31st March, as well as the source from which the supplies have been drawn. In Statement No. II. the last column professes to show the total delivery of each month by the Madras Railway, but it is necessary to explain that a considerable portion of the grain invoiced from Northern India in December 1876 and January 1877 was not actually delivered in the Madras Presidency till the month of February.

The best month's work out of Madras has been that of March, when nearly 35,000 tons of grain were despatched; the best month's work from Beypore that of January, when over 10,000 tons of grain were carried; and the best month's work from the northern end that of February, when the actual quantity of grain sent southwards from Raichore was approximately 18,000 tons.

Up to the end of March there was no effective increase to the engine power, for although the additional engines were in the hands of the Madras Railway Company, the drivers for these engines had not reached their posts till the first week of April.

With the increased demand which is just beginning to be felt in the ceded districts of Madras, and which, in my humble opinion, is likely to grow daily till the rains fall, the additional engine power will be fully engaged; and it may be worthy of notice that, while the despatches of grain from Madras cannot be largely increased without suspension of the ordinary traffic, there is even now train room for many more grain waggons from the north.

No. I.—MADRAS RAILWAY.

MOVEMENT of FOOD GRAINS for month ending 31st March 1877.

Movements
of food
grains.

Forwarded from	Received at											
	Madras District.	North Arcot District.	Mysore Territory.	Salem District.	Coimbatore District.	Malabar District.	Between Codoor and Wontimettah.	Cuddapah and Yerragoontla.	Gooty and Tadputri.	Bellary.	Adoni.	Total.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Madras - - - -	29	4,677	12,958	2,358	465	—	407	7,426	2,955	2,955	517	34,747
Beypore - - - -	—	293	1,679	2,308	3,017	372	—	—	—	—	—	7,669
South Indian Railway - -	2	26	499	636	46	—	—	—	—	—	—	1,209
Great Indian Peninsula Rail- way.	30	1	64	16	—	—	—	338	343	4,441	3,293	8,226
North Arcot - - - -	15	47	97	70	—	—	6	28	—	4	—	267
Salem - - - - -	—	4	87	189	10	—	—	4	—	—	—	294
Coimbatore - - - -	—	8	100	209	74	—	—	—	—	—	—	391
Total - - - -	76	5,056	15,484	5,786	3,612	372	413	7,796	3,298	7,100	3,810	52,803
							8,209					

Traffic Manager's Office, Madras, the 24th April 1877.

H. E. CHURCH,
Traffic Manager.

No. II.—MADRAS RAILWAY.

STATEMENT exhibiting month by month the TOTAL AMOUNT of FOOD GRAIN received from all sources in the following Districts per Madras Railway from 1st August 1876 to 31st March 1877.

	Received in								
	Madras or Chingleput District.	North Arcot District.	Mysore Territory.	Salem District.	Coimbatore District.	Malabar District.	Cuddapah District.	Bellary and Kurnool Districts.	Total Delivery of the Month.
1876.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
August - - - -	429	653	3,049	642	1,667	2,169	782	3,359	12,750
September - - - -	328	1,949	6,173	1,264	1,238	615	762	5,040	17,369
October - - - -	234	1,863	14,485	1,643	925	839	2,641	8,466	31,096
November - - - -	368	1,879	10,194	2,183	1,962	1,324	4,760	15,189	37,859
December - - - -	107	6,755	11,515	4,475	3,451	868	10,091	21,729	59,011
1877.									
January - - - -	201	5,034	12,072	4,908	3,567	966	8,856	20,455	56,059
February - - - -	143	4,165	9,220	4,037	3,826	525	9,389	13,614	44,919
March - - - -	76	5,056	15,484	5,786	3,612	372	8,209	14,208	52,803
Total - - - -	1,886	27,354	82,192	23,610	20,248	7,678	45,490	102,161	310,957

W. S. S. BISSET.

No. III.—MADRAS RAILWAY.

STATEMENT exhibiting the TOTAL QUANTITIES of FOOD GRAIN forwarded from and received at the following places per Madras Railway from 1st August 1876 to 31st March 1877.

Forwarded from	Received at								
	Madras or Chingleput District.	North Arcot District.	Mysore Territory.	Salem District.	Coimbatore District.	Malabar District.	Cuddapah District.	Bellary and Kurnool Districts.	Total.
	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.	tons.
Madras - - - -	514	22,316	45,542	5,486	1,869	9	33,045	37,335	146,454
Beypore - - - -	67	2,501	11,858	7,184	10,773	1,856	523	678	35,430
Great Indian Peninsula Railway. -	329	297	2,208	148	10	—	4,138	53,553	60,683
South Indian Railway - -	78	514	8,197	3,170	1,617	824	585	362	15,347
North Arcot District - -	761	701	3,561	769	795	283	3,160	640	10,670
Salem District - - - -	84	381	4,025	1,540	453	78	467	271	7,299
Coimbatore District - -	17	410	3,337	3,747	1,177	225	647	250	9,810
Malabar District - - -	16	130	2,559	1,467	3,548	4,399	44	4	12,167
Mysore Territory - - -	9	43	883	89	1	4	—	25	1,054
Cuddapah District - -	11	28	—	1	—	—	1,296	1,236	2,572
Bellary and Kurnool Districts. -	—	53	22	9	5	—	1,585	7,807	9,481
Total - - - -	1,886	27,374	82,192	23,610	20,248	7,678	45,490	102,161	310,957

W. S. S. BISSET.

No. 237.

No. 22 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Simla, the 26th April 1877.

Nos. 215.
216.
Bad report
from Madras.

We enclose a minute by Sir Richard Temple regarding the condition of the upland taluks in the district of Salem, which he describes as being among the most distressed tracts in the whole of the Madras Presidency. Some parts of these taluks have not had crops for two years. One of them, Utangiri, was one of the taluks which suffered most severely in the scarcity of 1866. The relief operations appear to be conducted with care and judgment.

2. Yesterday we received the following telegram from Sir Richard Temple :—

“Since last weekly telegram I have visited South Arcot, revisited districts North Arcot, Cuddapah, Kurnool, Bellary. In Southern India situation changed slightly for worse contrary to expectation, because showers ceased middle April; any moment rain might alter whole case, otherwise distress must gradually increase. Near Madras, on East Coast, no rain at all; country there quite parched. Northwards, above Ghâts, in Bellary and Kurnool, situation worse, according to previous expectation. Season of trouble approaching. Agricultural and able-bodied classes still sustain themselves; but famine beginning to seize lower classes. Numbers on gratuitous relief rising. Many come to relief works in reduced state. Village inspection and relief being better developed but still not complete everywhere; I have again urged its full development. Those who cannot work becoming badly distressed; in relief gangs able-bodied still healthy, but weaker ones sometimes fall into low condition. A sort of scurvy appearing; many think reduced wage should be raised. I deprecate raising wages for able-bodied, fearing influx of persons to work who could otherwise support themselves; but I have recommended special allowance for all who are found reduced, also concession Sunday wage. Efforts with some success to send labourers to Nellore Canal; but earth-work slowly and feebly begun on railway from Bellary towards Dharwar. Active markets supplied. Draught cattle sustained. Inferior animals languishing or perishing in large numbers. Imports to Madras steady, but from Bombay direction increasing. No actual want of drinking water. I have just quitted Madras Presidency.”

From the facts stated in this telegram it is evident that, unless rain falls within the next week or so, there will be a very great increase in the numbers of persons needing relief, and also in the loss of cattle, already, it is to be feared, very grievous. Your Lordship will have learnt from our telegram of the 21st instant that the number in receipt of relief in the Madras Presidency had then reached very nearly a million, which, however, is still considerably below the estimate for April submitted by the Madras Board of Revenue in December last, according to which the numbers likely to require relief in April were put down at 1,405,000. The greatest increase is perceptible in the number in receipt of gratuitous relief, which amounted to 241,000 persons; and from Sir Richard Temple's allusion in his present telegram to the insufficient development of the system of village inspection, we may look for a still further increase in the numbers requiring State relief in this form.

3. The situation is serious and critical; but the trade in grain is active, and there is, we trust, no reason for apprehending any deficiency in the supply in any of the districts. Sir Richard Temple, who is now on his way to Bombay to assume the Government of that Presidency, is about to furnish us with a comprehensive report on his mission, which will doubtless embody his latest impressions on the present aspect of the famine, and which we shall lose no time in forwarding to your Lordship.

4. The following is an extract from our telegram of the 21st instant regarding the numbers on the relief works and in the receipt of charitable relief according to the latest returns :—

“In Madras 726,000 on relief works, and 241,000 charitably relieved. In Bombay 270,000 on works, and 66,000 charitably relieved. In Mysore 64,000 on works, and 59,000 charitably relieved.”

5. Since the above was written we have received the following supplementary telegram from Sir Richard Temple, despatched yesterday from Dhond in the Poona district, the point from which the railway starts which is to connect the Northern and Southern

sections of the Great Indian Peninsula Railway, and which has been commenced as a relief work :—

“ I have seen some local officers, districts Sholapur, Poona, and Ahmednagar, have inspected 3,500 relief labourers, person by person, on Dhond and Munmar Railway, found them doing well on new wage. General situation of Bombay Deccan appears thus : Pressure becoming harder everywhere, numbers on relief works slightly increasing, system steady. Vast majority of relief labourers under professional officers, task-works well enforced, numbers on gratuitous relief increasing fast, village inspection developed. Prices slightly rising. Trade active. Markets well supplied. Draught cattle sustained, but numbers of other cattle perishing. Fate of animals sent to Ghát mountains for grazing uncertain. Many dying there. Anxiety about bullocks for future ploughing. Showers have fallen, but do not effect material good. I found water in rivers Tungabadra and Krishna increased in volume since last visit. Drinking water scarce occasionally, but failure averted by excavating wells.

We have the honour to be, &c.

(Signed)

F. P. HAINES.

E. C. BAYLEY.

ALEX. J. ARBUTHNOT.

A. CLARKE.

E. B. JOHNSON.

WHITLEY STOKES.

No. 238.

Revenue No. 33.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 26th April 1877.

Para. 1. The Despatch of your Excellency in Council, dated 9th March, No. 14 of No. 147. 1877, relative to the famine in the Presidencies of Madras and Bombay, has been considered by me in Council.

2. The insufficiency of the means at present available for the transport of grain from Madras to the interior, and especially to the ceded districts and Kurnool, must reasonably have caused much anxiety. The efforts hitherto made to increase the carrying power of the railway have been met by unforeseen difficulties, but as the subject is now engaging the earnest attention of your Excellency's Government and that of Madras, I trust that means will be devised for overcoming the present obstacles.

3. Your instructions to the Government of Madras relative to the necessity of removing the misapprehensions which exist in the public mind as to the relations between the Government and the firm of Arbuthnot and Co. have my approval. If, after consultation with the Madras Government, your suggestion for the sale of the Government reserve stock be acted upon, I trust that the periods of sale and quantities sold may be so arranged as not to disturb the ordinary operations of trade.

4. I trust that the local authorities in Nellore, the ceded districts, and Kurnool, will succeed in carrying into execution the plan suggested by Sir R. Temple of drafting labourers from the relief works in those districts to the great work of the East coast Navigation Canal. The end to be attained is so important, that I trust no exertions will be spared to make use of the present opportunity for the completion of this useful work.

5. I shall await the result of your deliberations on the subject to which the Sanitary Commissioner of the Madras Government has drawn attention, of the alleged insufficiency of the reduced rate of wages lately prescribed for the relief works in that Presidency.

6. I fully concur in the views expressed in the Resolution of your Excellency's Government on the returns received from the Chief Commissioner of Mysore relative to the scarcity in that province. The Chief Commissioner and the officers of the Administration appear to have well deserved the praise bestowed on them by your Excellency in

Council for the zeal, judgment, and humanity which have characterised their arrangements and exertions to meet the great calamity which has fallen on the province.

7. I concur with your Excellency in the emphatic recognition which you record of the value of Sir R. Temple's labours.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 239.

Revenue, No. 36.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 26th April 1877.

No. 170.

Para. 1. The Despatch of your Excellency in Council, dated 16th March, No. 15 of 1877, relative to the famine in the Presidencies of Bombay and Madras, has been considered by me in Council.

2. I will await the result of the deliberations of your Excellency in Council, after full communication with the Government of Madras, on the Sangam project. As a reproductive work, it is well worthy of consideration at such a crisis as that which now engages your attention.

3. I am glad to learn that the conclusions at which Sir R. Temple arrived, after his repeated visits to North Arcot, are, on the whole, favourable, and that he considers everything has been done which ought to have been done in respect to measures of relief by the local authorities.

4. Sir Richard Temple has discussed with ability the views stated by Dr. Cornish, the Sanitary Commissioner at Madras, as to the scale of rations for labourers on relief works. The question at issue is, without doubt, one of great difficulty, and one on which it would be unwise to lay down an inflexible rule. I am confident that the humane principles already laid down by your Excellency will be scrupulously carried out by the officers of the Government, and that no scale of rations will be maintained which is not adequate to the sustenance of the labourer.

5. It is very satisfactory that progress has been made towards enabling the Madras Railway Company to carry 1,400 tons a day, twice the amount which it has hitherto been able to carry.

6. The statement that the number of persons on the relief works in the two presidencies has, during the week under review, been reduced by 49,266, is satisfactory.

7. I feel it my duty to record my approbation of the discrimination and judgment with which the calamity before you has been met by your Excellency in Council, by Sir Richard Temple, by the Governments of Madras and Bombay, and by the local authorities in those presidencies.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 240.

Nos. 241.
256.

MEMORANDUM by CAPTAIN W. S. S. BISSET, R.E., on Special Duty, dated Bombay, the 28th April 1877.

Imports of
food grains.

The following notes are based upon returns which have just been obtained from Madras. The very extensive importation into Madras of grain from the subordinate ports during the months of August, September, and October 1876 had escaped my notice, and I have to express my thanks to Captain Coaker, R.E., Deputy Consulting Engineer, and to Mr. H. E. Church, Traffic Manager of the Madras Railway, for having called attention to the matter and for having assisted me in obtaining the additional statistics now presented.

For the months of August, September, and October 1876, the published statements of the Madras Board of Revenue show the import of food grains into the port of Madras at a total of 5,637 tons. During the same period the Madras Railway alone carried out of Madras 20,446 tons of grain, and the question arose where this supply came from.

The figures thus published are found to be the imports from non-subordinate ports only, the imports of food grains from the ports subordinate to the Madras Presidency

during these months having actually amounted to 38,000 tons in addition to the 5,637 tons above mentioned. Imports of food grains into Madras.

During November and December 1876, 55,466 tons were delivered in Madras from beyond the presidency, and 30,000 tons from the subordinate ports, while during the first three months of 1877 the imports of food grains into the port of Madras amounted to 165,852 tons from ports beyond, and 36,000 tons from other ports within the jurisdiction of the Local Government. The imports into the port of Madras commencing in August with a total of 15,000 tons steadily rose up to January 1877, when the total imports from all sources into Madras alone exceeded 80,000 tons.

The total food supply made available in Madras from August 1876 to the end of March was therefore—

	Tons.
From subordinate ports - - - -	104,000
From non-subordinate ports - - - -	227,000
Total - - - -	<u>331,000</u>

Of this vast supply, the Madras Railway forwarded from Madras over 146,000 tons, its maximum despatches having amounted to 35,000 tons during the month of March.

Up to the end of March the minor East Coast ports of Negapatam, Tuticorin, and others imported 25,000 tons of grain, and this supply enabled Southern India to send to the more distressed districts served by the Madras Railway over 15,000 tons of food grain; Mysore taking over 8,000 tons of this amount.

During the same period, Beypore and Calicut received approximately 63,000 tons of food grains. Of this, over 35,000 tons was sent up by rail, nearly all to Coimbatore, Salem, and Mysore. The Malabar district probably received much of this by land, for it sent away by rail 5,000 tons of grain more than it received.

The other ports on the West Coast are said to have received 52,750* tons up to the end of February, and this large supply has all been distributed by cart.

If the period from August to October 1876 be included, the total imports into the Madras Presidency will be seen to be as follows:—

IMPORT OF FOOD GRAINS into the PRESIDENCY of MADRAS.

Madras received in	From Ports beyond the Presidency or Non-Subordinate Ports.	From Subordinate Ports.	Total.
	tons.	tons.	tons.
August 1876	1,769	38,000	43,637
September "	875		
October "	2,993		
November "	26,792	30,000	85,466
December "	28,674		
January 1877	72,985		
February "	57,421	36,000	201,852
March "	35,446		
Total - - -	226,955	104,000	330,955
Other East Coast ports received from all sources - - -	-	-	25,000
Grand total Madras and East Coast - - -	-	-	355,955
Beypore and Calicut received from all sources - - -	-	-	63,000
Other West Coast ports " " - - -	-	-	55,000
Grand total of West Coast ports - - -	-	-	118,000

The Northern districts received by rail from Great Indian Peninsula
Railway - - - - - 61,000

Imports of
food grains
into Madras.

The above figures abstracted show the total imports as follows:—

	Tons.
By sea from Bengal, Burma, Orissa, and Ganjam to Madras, Tuticorin, &c.	356,000
By sea into Beypore and other West Coast ports	118,000
By Great Indian Peninsula Railway from Northern and Central India into the Madras Presidency	61,000
Grand total	535,000

No. 241.

No. 256.

CXV.—MINUTE by SIR RICHARD TEMPLE, on the subject of the Imports of Grain into the Presidency of Madras and its Transport by the Madras Railway.

Bombay, the 28th April 1877.

Later information makes it desirable to state finally the statistics of the imports of food grains into the Presidency of Madras since the commencement of the scarcity of 1876-77. Copies of certain notes and memoranda by Captain Bisset are forwarded.

2. It was assumed originally on the published data of the Madras Board of Revenue that the imports before the month of November were altogether inconsiderable. The despatches of grain by rail from Madras were, however, during the months of August, September, and October so much in excess of the total imports thus shown that it was doubted whether the Board's statements were complete. And on further inquiry it was ascertained that the 5,637 tons shown as imported during August, September, and October from beyond the presidency were supplemented by an import amounting to 38,000 tons from ports known by the Madras Board of Revenue as "subordinate ports."

3. Thus before November, the month previously recognised by me as the beginning of heavy imports, there were delivered into Madras a total of 44,000 tons of food grains. Some corrections have been made in the returns for the period from November onwards, the estimated imports for March having been very much exceeded by the actuals both at Madras and at the minor ports on the East and West Coasts, and the whole supply taken by the Presidency has to be stated at 535,000 tons.

4. The following is the abstract of importations in the Presidency of Madras:—

	Tons.
By sea from Bengal, Burma, Orissa, and Ganjam to Madras and other East Coast ports	356,000
To Beypore	118,000
By the Great Indian Peninsula Railway	61,000
Grand total	535,000

5. The following is an abstract of the quantities of grain which were carried away by rail from Madras into the interior:—

	Tons.
To Chingleput district	514
„ North Arcot	22,316
„ Mysore territory	45,542
„ Salem district	5,486
„ Coimbatore and Malabar	1,878
„ Cuddapah district	33,045
„ Bellary and Kurnool	37,335
Total	146,454

6. The despatches of grain from Madras from 3,000 tons in August rose to over 10,000 tons in October, and to more than 13,000 tons in November, from which time the despatches have been limited only by the carrying powers of the Madras Railway.

7. Hence it is apparent that there was a very great activity in the grain trade of Madras during the autumn, a fact very material to the estimate which was formed of the conjuncture arising at that period.

No. 242.

No. 214, dated Bombay, the 28th April 1877.

From the PRIVATE SECRETARY TO SIR RICHARD TEMPLE to the ADDITIONAL SECRETARY No. 262.
TO THE GOVERNMENT OF INDIA.

I am directed by Sir Richard Temple to submit a printed copy of his minute, dated 14th April, being a general report on his late mission to the distressed districts of the Madras Presidency. This report being submitted for the information or consideration of the Government of India, no copy has as yet been sent by Sir Richard Temple to the Government of Madras, as he deemed that perhaps the Government of India would prefer communicating the report to the Local Government.

Forwarding
Sir Richard
Temple's re-
port on his
mission.
No. .

2. The report will, it is hoped, be found to be drawn up in sufficient detail to speak for itself. But it had, by reason of Sir Richard Temple's approaching departure from the Presidency, to be completed and sent to press on the 14th April, which date represents a critical point in the season, when a change for the better or for the worse was to be expected. Therefore Sir Richard Temple desires to add that during the ten days subsequent to the 14th April, say up to the 25th April, when he left the Madras Presidency, the season declared itself adversely. The expected change came indeed, but it was for the worse. Consequently the position of affairs on the 25th April was somewhat more unfavourable than that described in Part IV. of the Report, which applied to the period ending on 14th April. The cause is the cessation of the usual spring showers of Southern India, which fell propitiously until the middle of April, and then ceased. To this, however, the country on the east coast around Madras itself formed an exception, having received no rain at all, great drought therefore prevailed in the Chingleput district up to the 25th April. The mortality in the relief camps near Madras was as bad as, if not worse than, ever; and the need was becoming apparent of sending to their homes, to be relieved there, all those inmates of the camps who could possibly be moved. Distress was certainly becoming worse in Madura, perhaps was arising in Tinnevely, and was to be shortly expected in South Arcot. Affairs were somewhat better in Coimbatore, Salem, North Arcot, and Nellore; but if rain should be withheld for a few days longer in those districts, then some aggravation of trouble was to be feared. In Cuddapah and Kurnool matters were going on according to expectation, save that in one subdivision of Cuddapah (Mudanapulli) there seemed to be some degree of administrative failure. In Bellary the famine seemed to be making some strides onwards. The applications for gratuitous relief were fast increasing. And in the relief labourer gangs working upon the reduced wage the proportion of persons needing special concessions was rising.

Subsequent
change for
the worse.

3. Even now a timely fall of rain (which is ordinarily to be expected at this season in Southern India) would change the whole face of affairs. But if there be no more showers until the coming of the south-west monsoon, then the unfavourable features indicated in this letter will become aggravated gradually, week by week, almost day by day.

4. I am to add that the grain trade continued active as ever, and the carrying power of the several railways was still sufficient for the conveyance of the grain supplies. But if, as is possible, there should be a rapid influx of grain during the month of May, then Sir Richard Temple apprehends that additional engines will be much wanted.

Activity of
grain trade.

No. 243.

NOTIFICATION by the GOVERNMENT OF INDIA.

No. 245.

Simla, April 30, 1877.

The Hon. Sir Richard Temple, Bart., K.C.S.I., being about to assume the office of Governor of Bombay, to which he has been appointed by Her Majesty, and being in consequence under the necessity of closing the special mission on which he has been employed since the beginning of January in the Presidencies of Madras and Bombay, and in the territories of his Highness the Maharaja of Mysore, his Excellency the Viceroy and Governor-General in Council desires to give public expression to the high sense which the Government of India entertain of Sir Richard Temple's services on this occasion.

Acknow-
ledgement of
Sir Richard
Temple's
services.

When in January last it was deemed expedient that a high officer fully acquainted with the views of the Government of India should visit the Presidencies of Madras and Bombay for the purpose of inspecting the districts afflicted with scarcity, and communicating personally with the two Governments regarding the measures which were being carried out for the relief of distress, the choice of the Government of India at once fell upon Sir Richard Temple as the officer whose experience, ability, and energy pointed him out to be specially qualified for the duty. At a considerable sacrifice of personal comfort and convenience, Sir Richard Temple promptly responded to the call made upon him, and has conducted his arduous and delicate mission with signal ability and success.

The energy and devotion which have enabled him to undergo an amount of physical exertion which few could have accomplished are not more remarkable than the thoroughness of his inquiries and the judgment and tact which have characterised his communications with the Local Governments and their officers. To the Government of India Sir Richard Temple has rendered invaluable assistance at this trying juncture, in enabling it by his clear and lucid reports to appreciate the actual facts of the situation; and his Excellency in Council is persuaded that the Government to which he was accredited must recognise the advantage of his practical suggestions for the relief of distress and for promoting a judicious economy in the heavy expenditure which is being necessarily incurred.

The Governor-General in Council has no doubt that if life and health be spared to him in the high office which he is about to assume, Sir Richard Temple will add fresh and important services to those which he has already rendered to the State during his long and distinguished career. In entering upon his new duties he carries with him the best wishes of the Government of India.

No. 244.

Revenue, No. 39.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

India Office, London, 3rd May 1877.

No. 181.

Para. 1. The Despatch of your Excellency in Council, dated 23rd March, No. 16 of 1877, relative to the famine in the Presidencies of Madras and Bombay, has been considered by me in Council.

2. With your Despatch you have transmitted 12 minutes and memoranda by Sir Richard Temple on various questions connected with the famine. The views therein expressed will doubtless receive every attention from the Government of Madras, but they do not at the present time demand remarks from me.

3. Your judgment in determining that relief operations should be so conducted as not to interfere with private trade was sound, and has been fully justified by the event. All doubt as to the manner in which the grain in the hands of the Madras Government will be employed has been set at rest by the public declaration of that Government that the grain shall be retained in reserve to meet future emergencies, and will not be utilised so long as private trade meets the requirements of the distressed districts. Under these circumstances, and with this reservation, I am of opinion that the movement and utilisation of the reserve may be left to the discretion of the Madras Government.

4. The intelligence that there has been a good fall of rain in Bellary, Cuddapah, Kurnool, Nellore, Trichinopoly, Tinnevely, and other of the afflicted districts, is very satisfactory.

5. The small increase of 2,608 persons on the relief works in the two presidencies may also be deemed satisfactory, when the period of the year is taken into consideration.

I have, &c.
(Signed) SALISBURY.

No. 245.

No. 23 of 1877.

No. 265.

GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the
SECRETARY OF STATE FOR INDIA.

Simla, the 3rd May 1877.

We enclose several minutes written by Sir Richard Temple during the last fortnight of his stay in the Madras Presidency, referring to various questions connected with the administration of famine relief.

2. The most important questions discussed in these papers are—

1st. The expediency of utilising the officers of the Public Works Department in the superintendence of the relief works. No. 235.]

2nd. The sufficiency of the rate of relief wages. No. 218.

3rd. The expediency of gradually reducing and eventually abolishing the relief camps, by drafting able-bodied persons to the works, and sending the infirm and helpless poor to their homes, as the system of village relief becomes sufficiently organised. No. 229.

4th. The substitution of coal fuel for wood on the Madras Railway lines, with the object of preventing the destruction of the forests, and especially the hill forests, the gradual denudation of which has a prejudicial effect on the regularity of the rainfall. No. 220.

The last of these "proposals will require to be carefully examined; and while we fully recognise its importance, we are not at present in a position to offer any definite opinion as to its feasibility.

3. The question of more effectively utilising the large public works establishments in the Madras Presidency, on the duty of superintending the relief works, has been repeatedly pressed by Sir Richard Temple upon the attention of the Madras Government, not only in the minutes now sent, but in other minutes which have been already laid before your Lordship. In his minute of the 29th March* (No. LXXXVII.), adverting to the defects in the exaction of task-work, which characterised many of the relief works in Madras, Sir Richard Temple remarked that the main cause of the failure consisted in this, "that the Public Works Department in each of the distressed districts "is not sufficiently employed (indeed is sometimes hardly employed at all) in the "tasking,—an affair which is of all affairs the very one which it is most competent to "manage, and which can be thoroughly managed by it alone." In most of the districts, and especially in Bellary and Kurnool, the number of the relief works under the department of public works is very small, while the majority of the relief works are under civil officers. The result is that the tasking is at the best but light, and when the supervision is Native only, the tasking is too often nominal. The subject is referred to in several of the minutes enclosed in this Despatch, and more particularly in that of the 24th ultimo, written on the eve of Sir Richard Temple's departure from the Madras Presidency, wherein he points out that, while in the Bombay Presidency the plan of tasking the relief labourers under a settled departmental system by professional establishments, specially trained for the business, has been so advanced, that out of 287,760 persons on the relief works in that presidency, 259,057 are worked under the Public Works Department, and only 28,703 are under civil officers; in the Madras Presidency, out of 716,507 in all, there are not more than 83,000 under the Public Works Department, the remainder, 633,507, being under civil officers—

"Out of this latter number it may be admitted that 24,140 in Coimbatore, 28,000 in Salem, 13,626 in Madura, in all 65,766, are well and fully tasked. The remainder, 568,741, are (with the exception of a certain number in Cuddapah which I cannot state precisely) under the civil officers, and are for the most part lightly tasked. It is especially remarkable that in the two districts showing the largest numbers, Bellary and Kurnool, having both together 422,784 persons, the whole are under civil officers, and lightly tasked, with the exception of the 3,000 on the railway from Bellary towards Dharwar."

This difference in system, in Sir Richard Temple's opinion, is the main cause of the difference in the proportion of relief labourers to the whole population between these two districts, on the one hand, and the Bombay Deccan, on the other hand. The percentage of relief labourers on the whole population is in Bellary 12·75 per cent., and in Kurnool 21·25; while in Sholapur, in the Bombay Presidency, it is only 6·69, in Kaladgi 4·8, and in the distressed part of Poona 3·7. Making every allowance for

On question of relief works being placed under control of Public Works Department. *No. 192.

the greater intensity of the famine in the Madras Presidency, these facts appear to us to afford strong presumptive evidence of the superiority of the Bombay system, and of the expediency of adopting it in Madras. Another consideration which is adverted to in Sir Richard Temple's minute of the 20th ultimo, regarding the South Arcot district, is that, if this plan were adopted, the civil officers would then have more leisure for effectively superintending the system of village relief. We are about to address the Madras Government on this subject, with reference to the remarks contained in the 8th paragraph of their despatch to your Lordship, under date the 7th ultimo, No. 25, and also regarding the proposal contained in Sir Richard Temple's minute of the 22nd ultimo, for the gradual abolition of the relief camps.

The question of the sufficiency of the reduced scale of wages.

* No. 218.

4. The remarks recorded in Sir Richard Temple's minute of the 18th ultimo* appear to us fully to dispose of the objections advanced by the Sanitary Commissioner of Madras to the reduced rate of wage. We would draw your Lordship's particular attention to the following passages in the minute:—

"I must advert for a moment to certain parts of the argument of the Sanitary Commissioner of Madras, which seem to amount to this, that because there is mortality among the recipients of gratuitous relief, who are admitted to particular relief camps, therefore the wages of relief labourers must be insufficient. Whether the Sanitary Commissioner intends to convey this idea I know not, but something of the sort would, I apprehend, be gathered by ordinary readers of that which he has written. Therefore, I have to explain that there is no connexion whatever between recipients of gratuitous relief on the one hand, and the recipients of relief wages on the other. The gratuitous rations allowed to the inmates of relief camps have nothing whatever to do with the wages paid on relief works. The inmates of these camps who are admitted there as being unable to work are a class totally different from those who are admitted to the relief works as being able to work. Inferences deduced from the condition of the recipients of gratuitous relief are wholly irrelevant if attempted to be applied to the condition of relief labourers. If unhappily there be mortality among the inmates of relief camps, it by no means follows that there is any mortality among relief labourers. In point of fact, there is no mortality among relief labourers except from cholera, small-pox, or other diseases, and when sometimes cholera has stricken and dispersed large gangs of relief labourers, there has never been any reason to suppose that the scourge arose from want of food. Again, if, notwithstanding scientifically arranged diet, the condition of the inmates of relief camps continues bad, no amelioration whatever could be afforded by raising the wage of relief labourers; who are a totally different class. These poor inmates have never gone to relief works at all. Indeed, the very reason of their admission to the relief camps is this, that they are incapable of going to relief works. They are diseased or infirm, or being indisposed to work have wandered about, or passing by means of relief close at home have wandered to a distance.

"Being thus helpless for one reason or another they are picked up and taken care of, but when picked up they are often beyond the reach of human aid. No analogy, therefore, drawn from these persons can possibly be applicable to relief labourers, and to mention the two cases with any sort of parallelism and in any kind of connexion, would be to produce confusion of ideas and other misapprehension.

"If, indeed, persons who were pale on being admitted to relief works were to become thinner and thinner and weaker and weaker till at last they had to be drafted off to gratuitous relief camps as unfit to work, then that would be a reason for reconsidering the wage, but this is just what has not occurred, and is not occurring. If I saw or knew any signs of its occurring, then I should be the first to move. Many relief labourers indeed have left the works of their own accord, not so much, however, because the wage was reduced, but rather because task-work was enforced, or because the scene of labour was removed to a distance from their homes.

"How it happens that so many of the destitute poor sank so low before being taken up for gratuitous relief is a question which need not be discussed in this minute. I may reiterate, however, that the proper remedy lies in the institution of house-to-house visitation throughout the distressed districts, and from the time of entering the Madras Presidency I have never ceased to urge upon the Government and the local authorities the necessity of such a visitation. And, indeed, this visitation has generally been instituted. But that it has not always been perfectly carried out is proved by the mortality which has occurred, or still occurs, in some of the relief camps."

5. Regarding the condition of the Bombay Presidency, Sir Richard Temple telegraphed as follows on the 1st instant:—

"Situation of Bombay Deccan same as described in my telegram of 25th. Recent showers in Konkan and South Mahratta country have encouraged people, improved

water supply, and benefited cattle. Poona and Sholapur plough cattle suffering severely, but draught cattle sustained, and trade active. Great Indian Peninsula Railway continues doing well. Emigrants who left Deccan districts beginning to return home to resume agriculture. Movement discouraged as premature. Number on relief works slightly reduced, and on gratuitous relief increased. This was expected. General condition of the people fairly good. Special concessions allowed to return emigrants in South Mahratta Country. Similar allowance authorised in individual cases of need everywhere; but relief labourers on reduced wages are sustained in fair health. One pound grain per diem still thought sufficient if work light. Endeavours made to render village relief efficient as pressure on poorest classes increases. In Bombay city much sickness, and death-rate high, due to fever attacking all classes alike. Causes not connected at all with famine. Those who come from interior find employment in city."

6. According to the latest returns which have reached us, the numbers in the receipt of relief were as follows:—

In Madras	-	-	{ 702,923 on relief works.
			{ 299,325 charitably relieved.
In Bombay	-	-	{ 311,000 on relief works.
			{ 77,700 charitably relieved.
In Mysore	-	-	{ 59,701 on relief works.
			{ 68,641 charitably relieved.

7. Last week's season reports showed that there had been a good fall of rain in parts of Bellary, Madura, and Tinnevely, and showers in Kurnool, Tanjore, Coimbatore, and Salem, and in most of the Bombay districts, as well as in the western districts of Mysore.

8. We enclose copy of a notification* which we issued on the 1st instant, giving public expression to the high sense which we entertain of Sir Richard Temple's services in the difficult and delicate mission on which he has been employed since January last. We shall advert to this subject more fully in our review of Sir Richard Temple's final report, which we expect to receive in the course of a few days.

We have, &c.
(Signed) LYTTON.
ALEX. J. ARBUTHNOT.

No. 246.

EXTRACT from the Proceedings of the Government of India, in the Department of Revenue, Agriculture, and Commerce, dated Simla, the 5th May 1877. No. 256.

RESOLUTION.

In the month of January 1876, some remarks in the weekly "season and crops" telegram from the Government of Madras, referring to the unsatisfactory prospects of certain districts in that presidency, attracted the attention of the Government of India, and the Local Government were requested to give further information on the subject. From some papers then submitted, and subsequently from a more comprehensive report received in the month of July, it appeared that, in consequence of the deficiency of the north-east monsoon, failure of crops had taken place in parts of four districts. In Bellary and Cuddapah there had been a considerable decrease of cultivation, and some remissions would be required, but prices were steady, and the condition of the labouring classes did not appear to call for the interference of the State. In North and South Arcot the loss of crops had been rather more severe, larger remissions were needed, and a general want of drinking water and pasturage was complained of. At the same time, slight falls of rain had taken place in all the districts, and while nothing could be safely predicted as to the coming south-west monsoon, the Government of Madras reported that they had taken every precaution for guarding against the serious effects of famine which its failure would occasion, and had sanctioned relief works for execution in the event of the provision of labour for the poorer classes becoming indispensable. In the month of August 1876 the Madras Government applied for a grant of Rs. 41,000 from Imperial revenues for relief purposes, but it was not until the receipt of telegrams, dated October the 24th and 27th, that the Government of India became aware that the condition of Bellary, Kurnool, and Cuddapah was very serious, and that if the north-east

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monsoon should not set in favourably within fifteen days, the gravest results were to be apprehended in those districts.

2. In accordance with the experience of the past, as summarised in paragraphs 9 and 11 of the Resolution of the Government of India on the Bengal famine of 1873-74, dated February 13th, 1875, the Madras Government were on October the 25th requested by telegraph to supply detailed information on various important points with reference to the distressed districts. The replies to this call being incomplete in essential particulars, such as the extent of failure of crops and of relief works organised, it was followed on the 2nd December by a request for a complete review and forecast of all distressed districts, like that which had been required from the Government of Bombay on the 30th of November, to be submitted to the Government of India by the 15th of January. The Chief Commissioner of Mysore also was, on the same date, directed to submit similar information.

3. The reports of the Bombay local officers were sent in to their immediate superiors, in a generally complete state, about the close of the year, and, together with the views of the Government of Bombay, were received by the Government of India in time to be considered and summarised, with orders thereon, in the "Gazette of India" of the 23rd February last. The reports from Mysore, though not quite so complete or trustworthy as those from Bombay, were similarly dealt with by the 10th of March. His Excellency the Governor-General in Council regrets to observe that the reports of the local officers in the distressed districts of the Madras Presidency have not, with some notable exceptions, been characterised by the same punctuality, accuracy, or completeness. Their various deficiencies in important particulars have been sufficiently commented on by the Madras Board of Revenue, and have been to a great extent supplemented by the series of elaborate and able reviews of the several districts by the Board itself which have accompanied them. His Excellency in Council is willing to make the most ample allowance for the irksomeness and difficulty which must have been felt in submitting detailed statistics by officers who were labouring under the practical difficulties of organising relief for clamorous and starving multitudes, but is constrained to observe that had they more generally grasped the imperative need of temperate and thorough diagnosis of the condition of affairs around them at a very early stage of famine, the exaggerated impressions which were in many instances received, and the excessive and uncalled for relief which was consequently given, might have been alike avoided, and the general policy of Government might have been, in important particulars, different from what it was. While thus commenting on a general tendency which has had a not unimportant influence upon the conduct of affairs, his Excellency the Governor-General in Council cannot withhold a tribute of admiration to the energy, ability, and self-devotion which the local officers of the Madras Presidency, of all grades, have uniformly displayed, to the humanity by which their measures, even if at times in excess of the occasion, have been prompted, and the loyalty with which they have accepted and endeavoured to carry out the famine policy of the Government of India, as set forth in the instructions of the 16th of January last, and personally explained by Sir Richard Temple in the course of his mission.

4. The delay which has taken place in submitting the review and forecast which was due on the 15th of January last has necessarily altered its character and diminished its use. The detailed information supplied is in some cases, and not in others, brought down to much later periods than that originally intended, and it is no longer possible by its aid to view, from a fixed standpoint, either the facts of the past or the prospects of the future. Fortunately, there is no longer the same necessity for doing so, as the progress of events, together with the mission of Sir Richard Temple, has solved many problems which, before the close of the year, presented themselves for earnest consideration. At the same time, his Excellency in Council is of opinion that the information which has now been collected, although in some instances incomplete in matters of calculation, and in others incongruous in point of time, may not prove to be devoid of value as a record of the earlier stage of a great famine, and of the attempt to deal with it on a basis of actual facts.

5. The area of the Madras Presidency, exclusive of Native States and of the city of Madras, is 138,291 square miles, and the total population 30,883,625. This tract is divided into 20 districts, of which Ganjam, Vizagapatam and Godavery on the extreme north, South Arcot and Tanjore towards the east centre, and South Canara, Malabar, and Nilgiris, on the west, have escaped any approach to actual famine, though the distress in parts of some of them, owing to high prices induced by partial failure of crops or extensive exportation, has not been inconsiderable. The remaining 12 districts have been subjected throughout to varied, but still severe pressure, which in parts of

many of them has reached the extremities of famine. The 12 districts comprise 121 separate taluks or subdivisions (of which 13 are zemindars' estates), and for each of these separate information has now been submitted by the local officers, and reviewed by the Madras Board of Revenue. The total area and population of the

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	Total.	Affected.
Area in square miles -	81,852	63,910
Population -	18,592,534	13,713,307

12 districts, and the area and population actually affected by famine, on the basis of considering as affected all taluks in which the crop saved amounts to less than one-half, are shown in the margin. If, however, taluks in which the crop saved amounts to one-half be included, the affected area and population will be raised to 71,849 and 15,432,393 respectively. Considering that the quantity of land not cultivated at all has in many instances been omitted by the Madras local officers from their calculations of failure, these latter figures probably afford, in the case of Madras, a juster estimate than the former. The extent of the famine in Madras is contrasted in the subjoined table with that in the Presidency of Bombay and the Province of Mysore :—

	BOMBAY.			MYSORE.			MADRAS.		
	Total.	AFFECTED.		Total.	AFFECTED.		Total.	AFFECTED.	
		Including half crops.	Excluding half crops.		Including half crops.	Excluding half crops.		Including half crops.	Excluding half crops.
Area in square miles	54,355	41,254	33,873	27,077	16,160	14,479	81,892	71,849	63,910
Population - -	7,963,927	6,180,209	4,981,616	5,055,412	3,141,747	2,849,329	18,592,534	15,432,393	13,713,307

6. Proceeding on the more favourable course of excluding taluks with half crops saved, it will be found that in Bombay the affected area and population are 62 per cent. of the total area of the districts concerned, in Mysore they are 53 and 56 per cent. only, while in Madras they reach 78 and 74 per cent. respectively. If taluks with half crops saved be included, the results are almost the same: Bombay appears somewhat less favourably, Mysore more so, but Madras still considerably exceeds the others. These facts, together with the large excess of the affected area and population in Madras over that of Bombay and Mysore combined, are sufficient evidence both of the magnitude of the calamity which has overtaken that presidency, and the difficulties with which the Local Government and its subordinates of all grades are called upon to contend.

7. The total rainfall during the past season, as reported up to the close of the year,

Proportion.	Number of Taluks.
Full or nearly so -	9
Three-fourths -	12
Two-thirds -	23
One-half -	31
One-third -	24
One-quarter -	7
One-fifth -	1
One-sixth -	3
One-eighth and under -	2
	112

or to dates since which no appreciable increase has occurred, is shown in the margin for 112 taluks. For the other nine, which are zemindari, no returns are available. The results, as thus shown, are less favourable, though not greatly so, than those ascertained regarding Bombay, which, again, held a lower place than those for Mysore. In order, however, fully to appreciate the severity of the failure of rain which has fallen upon the Madras Presidency, the fact must be remembered that the latter is dependent upon two monsoons instead of one, in proportions which vary greatly but rarely exceed two-thirds of one to one-third of the other. A fair supply during one monsoon, though it helps

materially to raise the general proportion, is therefore no compensation for extensive failure during the other. This will be more fully understood from the accompanying statement :—

DISTRICTS.	APRIL TO SEPTEMBER.		OCTOBER TO DECEMBER.		DISTRICTS.	APRIL TO SEPTEMBER.		OCTOBER TO DECEMBER.	
	Average.	1876-77.	Average.	1876-77.		Average.	1876-77.	Average.	1876-77.
Kistna -	20.4	16.1	11.8	0.8	Chingleput -	20.8	19.8	15.2	4.8
Nellore -	14.4	9.3	20.2	2.1	Salem -	20.5	15.8	9.9	2.0
Bellary -	16.7	7.7	8.3	0.3	Coimbatore -	12.5	14.0	10.2	3.1
Cuddapah -	21.9	7.1	10.5	0.5	Madura -	12.1	10.7	15.0	6.2
Kurnool -	25.7	7.5	7.4	0.4	Trichinopoly -	14.8	17.8	16.1	5.2
North Arcot -	25.6	16.0	11.3	2.5	Tinnevely -	6.3	4.3	11.6	6.3

The later rains were, in all cases, of great importance, but in some their failure alone produced the severity of famine.

8. The obscurity involving the estimates of the proportion of crops saved, in consequence of omission to take into account

DISTRICTS.	NUMBER OF TALUKS IN WHICH THE CROP WAS							
	Full average.	Three-fourths.	Two-thirds.	One-half.	One-third.	One-fourth.	One-sixth.	One-eighth.
Kistna -	-	1	1	2	6	-	1	1
Nellore -	-	-	-	-	3	3	1	3
Kurnool -	-	-	-	1	-	1	1	3
Bellary -	-	-	-	-	-	3	10	2
Cuddapah -	-	-	-	3	2	2	2	-
North Arcot -	1	1	1	1	3	3	1	2
Chingleput -	-	-	-	-	2	-	4	-
Salem -	1	-	-	-	1	4	1	2
Coimbatore -	-	2	-	1	4	3	-	-
Madura -	-	-	-	3	2	2	-	1
Trichinopoly -	1	4	-	-	-	-	-	-
Tinnevely -	4	-	-	-	-	2	-	3
Total -	8	8	2	11	23	20	14	26

land left uncultivated, failure of later crops, or other particulars, has been in several instances pointed out by the Board of Revenue. The marginal table gives such a summary as can be made, but it probably shows matters somewhat better than they really are. It does not, moreover, show fully the actual relative pressure of famine, as some districts which have lost more are, from previous good seasons or other circumstances, better off than others which have saved a larger proportion of their crops. Contrasting this table with the similar ones relating to Bombay and Mysore which have already been made public, the following results are obtained:—The

failure has been total, or nearly so, in 21 taluks of Bombay, 18 of Mysore, and 35 of Madras, or $22\frac{1}{2}$, $26\frac{1}{2}$, and 29 per cent. respectively; the taluks which have lost from one-sixth to one-half, both inclusive, are 48, 25, and 68, or $51\frac{1}{2}$, $36\frac{1}{2}$, and 56 per cent. in the three cases; while, finally, those which lost less than one-half are 24, 25, and 18, or 26, 37, and 15 per cent. The Madras losses, even on the figures now obtainable, which have been described above as probably unduly favourable, are consequently heavier in every instance than those experienced by either Bombay or Mysore.

9. The estimates of probable remissions submitted by the local officers amount to Rs. 1,24,33,758, or about one crore and a quarter of rupees. The Board of Revenue, in their reviews, make reductions in the case of Coimbatore, Kistna, Kurnool, Madura, and Nellore, which reduce this amount to about one crore, and express their belief that further large reductions are practicable in Cuddapah, Salem, and Tinnevely. The question of remissions of land revenue has been the subject of a special correspondence with the Governor of Madras, in consequence of suggestions submitted to them by Sir Richard Temple for suspension of portion of the demand with a view to its recovery in future years. His Excellency the Governor-General in Council decided to leave the matter in the hands of the Government of Madras, on the understanding that the local officers would be warned against too free remissions, and authorised to hold balances in suspense in cases in which it appeared likely that the landholder would be able, without undue pressure, to pay up next season. It is satisfactory to find that the remissions now stand at a lower figure than the previous estimate, and that the Board of Revenue consider further considerable reductions to be practicable.

10. The condition of the cattle and agricultural stock has occupied in all districts that attention which its importance deserves. According to the Administration Report of 1874-5, the numbers of cattle and sheep in the 12 affected districts were as shown in the margin. The fact that these numbers, compared with the population, betoken a wealth in this respect inferior to that of the affected districts of Bombay, enhances both the severity of losses and the urgency of reducing them to a minimum. According to the local reports, the condition of the cattle appears to be good in 46 taluks, indifferent in 38, and bad in 37. In some districts the mortality has already been extremely heavy. In Bellary the Madras Board of Revenue consider it unlikely that more than 25 per cent. of non-agricultural cattle, and from 60 to 70 per cent. of the agricultural cattle, will survive; Cuddapah and Kurnool have likewise suffered severely, while the heavy losses which have befallen the well-known breed in Nellore will be felt, for years to come, far beyond the limits of the district itself. Such relief as was practicable, by means of throwing open reserves and digging wells, has already been resorted to, and it may be hoped that the showers which have begun to fall may tend to freshen the pastures, and to diminish the further mortality which is so generally apprehended.

11. The means of water-supply do not appear to have been so extensively impaired as might have been expected, and as has been the case in Mysore. The condition of 45 taluks is considered to be good, of 48 indifferent, and of 28 bad, but though the inconvenience caused by scarcity will be in many instances extreme, no actual calamity is anywhere anticipated. Already the rains, partial though they have been, have brought relief, and difficulties in this particular are not now likely to be prolonged.

Cattle -	5,323,000
Sheep -	5,894,000
Total -	11,217,000

12. Regarding the course of prices, the only remarks which may be made are that the rise appears mostly to have commenced at a very early date, so that the rates at the beginning of October were abnormally high; that the increase appears to have been continuous, though in some cases more sudden than in others, until the close of the year; and that staple grains were at that period generally dearer than in the Bombay Presidency.

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13. The extent of the local stocks is a point at all times most difficult to ascertain, and the practice of hoarding until the nature of the coming season is assured tends to defeat any attempt at exact calculation. In districts such as Cuddapah, Kurnool, Madura, and Nellore, which had suffered from previous bad seasons, the supplies in hand were undoubtedly low, and in others, where they were originally fair, they were drawn forth for exportation by the high prices obtainable elsewhere. The Madras Presidency enjoys, however, in its system of railways, penetrating almost every one of the distressed districts, and conveying supplies both from Northern India and the Coast, as also in its extensive seaboard, lying open to the trade of Bengal and Burma, exceptional advantages for supplementing deficiencies in its food supply. The experience of the past four months has amply demonstrated that it has at its command, both within and beyond its limits, a body of merchants both competent and ready to utilise these advantages to the utmost, in accordance with the ordinary laws of supply and demand, and that any attempts to supplement their operations are entirely unnecessary, and cannot but prove prejudicial.

14. The condition of the mass of the people in the distressed districts, with the exception, perhaps, of Tinnevely, is poor. There are, however, in certain districts, large zemindari estates of a nature nowhere to be found in Bombay and Mysore, the owners of which ought to be in a position to assist their tenants, but exhibit, with a few noteworthy exceptions, no disposition to do so. The proportion of agriculturists generally exceeds considerably that of other classes, and there can be no doubt that the population as a whole, after exhausting what little accumulated means individuals may possess, are dependent, on an emergency like the present, upon such aid as the State can afford.

15. The emigration reported amounts to only 174,925, or 1·3 per cent. of the total affected population, but some persons, whose numbers are unascertained, have probably left other taluks. The principal known emigration has occurred in the districts named

Tinnevely -	- 49,511	in the margin. From Bellary, Kurnool, and Cuddapah persons have resorted to the adjacent territories of the Nizam and
Salem -	- 38,831	to Mysore, as well as to British districts, but their movement is
Bellary -	- 21,316	altogether abnormal, and they have probably already returned in
Cuddapah -	- 19,000	large numbers. In the southern districts it is difficult to distinguish the emigration to Ceylon and the coffee plantations of
Madura -	- 17,171	
Kurnool -	- 15,746	

the western range of Ghâts which has been caused by famine, as the population annually use to a great extent these outlets for their labour. Practically, the difficulties of the famine have, in the Madras Presidency, been but little affected by the movement of the people. It may be added, in connection with this subject, that the Government of India have recently approved of proposals submitted by the Chief Commissioner of British Burma for encouraging, by means of advances, the emigration of 20,000 labourers to that province.

16. Relief works on an extensive scale had been started before the close of the year in Bellary, Kurnool, and Cuddapah, and to a less, though still considerable, extent in Nellore. In Kistna, Coimbatore, North Arcot, Chingleput, and Salem a commencement had been made, while in Madura, Trichinopoly, and Tinnevely the necessity for relief had barely made itself felt, and local funds were mostly supplying what little could be said to be necessary. In the two last-named districts, indeed, actual distress has continued to be so limited that even up to April 14th only Rs. 18,857 had been expended. The works undertaken were, and have on the whole continued to be, what may be termed small and local, with the exception of the East Coast Canal, the Junction Canal, the Penair Embankment, and one or two minor undertakings. The construction and repair of roads, repair of tanks, and their supply channels, digging or deepening wells, and village improvements of a petty nature have been generally resorted to. This material difference between the nature of the Madras works and those undertaken in Bombay is attributed by Sir Richard Temple, in his minute of the 10th of February, to the alleged fact that the facilities in the Madras Presidency for large projects are remarkably few. The Madras works also differ from those of Bombay in another important particular—that they have been, and are, conducted mainly by Civil officers, without taking, to a greater extent than about 11½ per cent., advantage of the more strict and disciplined organisation of the Public Works Department.

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17. The numbers in receipt of gratuitous relief at the end of the year were 56,042, of whom 36,342 were in Bellary, and 10,512 in Nellore, other districts contributing the remainder in figures mostly quite insignificant. The system was mostly that of giving cooked food at central points to the aged or infirm, and authorising the village officers to relieve destitute travellers or other special cases of distress. The organisation of house-to-house visitation, and the admission of the children of labourers on the works to a charitable allowance of three pies per diem, are measures of recent origin, and not yet universally in force, but their effect has been apparent in the increase of the number gratuitously relieved, which on April 24th had reached 295,256. The operations of the Government in this respect have been materially aided by conspicuous efforts of private charity.

18. In the case of Madras, as in that of Bombay, three estimates, which are shown

Months.	Board of Revenue, December 19th.	District Reports, Christmas.	Sir Richard Temple, February 5th.	Actual Monthly Average.
December	577,000	—	—	—
January	820,000	—	1,039,000	1,025,025
February	1,035,000	—	1,228,000	821,357
March	1,220,000	1,646,139	1,480,000	640,117
April	1,405,000	—	1,840,000	702,076
May	1,355,000	1,857,245	1,530,000	—
June	1,140,000	—	795,000	—
July	780,000	1,804,196	310,000	—
August	405,000	—	—	—
September	100,000	—	—	—
	8,967,000	—	8,222,000	—

in the margin, have been framed of the numbers likely to be on relief works at various periods. The first was submitted by the Board of Revenue to the Government of Madras on the 19th of December 1876; the second is for the 1st of March, May, and July only, and is the total of the estimates of local officers contained in the reports now under review; the last is that contained in Sir Richard Temple's minute of February 5th, 1877, and based, as shown by the remarks on its reverse, on information obtained, in almost all cases,

from the local officers, at a time when, on the one hand famine had assumed, in some districts, a severer aspect than before, while, on the other, the policy to be followed in dealing with it had been defined and generally made known.

For the numbers on charitable relief no separate estimate is offered by the Board of

Months.	District Reports, Christmas.	Sir Richard Temple, February 5th	Annual Monthly Average.
January	—	50,000	81,219
February	—	100,000	44,850
March	176,064	250,000	62,282
April	—	500,000	209,860
May	213,471	600,000	—
June	—	700,000	—
July	225,782	500,000	—
August	—	160,000	—
	—	2,860,000	—

Revenue in their letter above referred to, but the local reports, and Sir Richard Temple's minute based on later local information, afford the results shown in the margin. The measures adopted for more thorough relief of this description, which have been already alluded to, will, no doubt, cause a large access to the numbers in receipt of it in the months of pressure which are yet to come.

The actual numbers relieved according to the latest accounts, both by the works and charitably, have been placed in juxtaposition with the estimates, and his Excellency the Governor-General in Council is glad to observe that, severe as is the

amount of suffering which they disclose, it has fallen far short of the most careful estimates which circumstances permitted to be made.

19. In conclusion, his Excellency the Governor-General in Council, while recording his deep concern at the calamity which has befallen so large a portion of British India as the Presidency of Madras, would add the expression of his warm sympathy with the extraordinary exertions which are being put forth by the officers of Government in all departments for the mitigation of the suffering by which they are surrounded, and his confidence that their judgment and caution will be alike successful in the preservation of life and the watchful husbandry of the resources of the State.

ORDER.—Ordered, that copies of this Resolution be communicated to the Secretary of State for India, the Governments of Madras and Bombay, Sir Richard Temple, and the Chief Commissioner of Mysore, and that it be published in the "Gazette of India."

No. 262.

No. 247.

EXTRACT from the PROCEEDINGS of the MADRAS GOVERNMENT, PUBLIC WORKS DEPARTMENT, No. 14 I., dated 7th May 1877.

ORDER by the GOVERNMENT of MADRAS.

The Sungum
project.

To enable Government to address the Government of India further on the subject of the Sungum project, His Grace the Governor in Council considers it desirable that the question of returns should be further considered in the Revenue Department, particularly

as regards the probable growth of revenue, and the time within which it may be expected that the ultimate revenue will be reached.

2. To furnish the information asked for by the Government of India as to the nature of the repairs and improvements which will require to be carried out to existing tanks and channels, should the Sangam project be abandoned, and as to the cost of such work, a special investigation would be required which would occupy a considerable time, and cost a good deal of money, but the district engineer, Nellore, will furnish such information as may be available as to the probable outlay which will be required to render the existing works fairly efficient. He will also, with reference to paragraph 4 of the letter from the Government of India, state whether any and what drainage works consequent on the completion of the Sangam project are likely to be required, and in support of any opinion which he may express on this point, he should show generally what the present drainage arrangements, natural or artificial, of this tract of country are.

No. 248.

Nos. 252,
256.

MEMORANDUM by Surgeon-Major I. B. LYON, F.C.S., Chemical Analyser to Government.

Bombay, 7th May 1877.

During the year 1876, 534 Native prisoners (all on hard labour) were discharged from the Bombay House of Correction. Their average weight on admission was 105 lbs. = 7 stone 7 lbs. On discharge they were found to have gained in weight on an average 1 lb. 10 $\frac{1}{4}$ oz. each. Their daily diet, while in jail, is shown at (a.) Table I., its value in nitrogen and carbon, calculated by the factors given in Table II., is, as shown (Table III. a.), nitrogen 201.6 grains, carbon 4,011 grains daily.

Sufficiency
of the re-
duced scale
of wages.

These quantities of nitrogen and carbon are very much less than the quantities laid down by authorities as requisite for a European of average weight in moderate work. Thus many authorities estimate the quantities required by a European, of average weight in moderate work, at about nitrogen 300 grains, carbon 4,850 grains daily (*see* Table IV., 1 and 2). Letheby, taking a mean calculated from the researches of various physiologists, estimates the quantities required by a European male adult of average weight on ordinary labour as nitrogen 307 grains, carbon 5,688 grains (Table IV., 3). The hard labour diet of English convicts contains nitrogen 281 grains, carbon 5,140 grains per diem (*see* Table IV., 10).

The experience of the Bombay House of Correction that Native prisoners at hard labour gain weight on a diet containing less nitrogen and carbon than the quantities laid down by authorities as requisite for European adults of average weight in moderate work, is confirmed by the experience of the jails of the Hyderabad Assigned Districts. The hard labour diet of these jails is shown in Table I. (b'), and its value, nitrogen 230.5 grains, carbon 4,600 at Table III. (b'). On this diet, the lowest, except the Bombay House of Correction diet, of the hard labour diets of the Indian jails, the prisoners are found to be "very healthy." Again, the new scale for all Indian jails proposed by the Jail Conference recently assembled at Calcutta (Table I. (c.)), values (*see* Table III. (c.)) nitrogen 213.2 grains, carbon 4,454 grains.

Considering together the experience of the Bombay House of Correction and the experience of the Hyderabad Assigned District jails, and considering also this proposal of the Jail Conference which, it may be presumed, is founded on the experience of officers well qualified to judge of the requirements of native prisoners, there seems to be no doubt but that hard labour prisoners in Indian jails require a diet containing less carbon and nitrogen than the amounts laid down by authorities as required by Europeans of average weight in moderate work. There thus appears to be a difference between Indian experience and European authorities.

If, however, the weight of Natives of India as compared with Europeans is taken into account, this apparent difference practically disappears, for taking the Bombay House of Correction diet, shown by experience to suffice for labouring prisoners averaging 105 lbs. in weight and raising its value in the proportion of 105 to 150, the quantities become nitrogen 288 grains, carbon 5,730 grains, quantities not greatly different from—1, Letheby's estimate for ordinary labour (Table IV., 3), viz., nitrogen 307 grains, carbon 5,688 grains, and 2, the value of the hard labour diet of English convicts (Table IV., 10), viz., nitrogen 281 grains, carbon 5,140 grains. The proportion 105 to 150 is employed, because, while the average weight of the prisoners discharged from the Bombay House of Correction in 1876 was on admission 105 lbs., the average weight of a European male adult is given by most authorities as 150 lbs.

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There certainly appears to be no theoretical objection to the proposition that the quantity of food required by adults is proportionate to their weight; provided, of course, always that the quantity of work expected from them is likewise proportioned to their weight. In order, however, to place the three diet scales I now propose (*see* Tables V. to IX.) as much as possible on the basis of experiences, I take as the foundation of the scales the experience of the Bombay House of Correction, viz., that Native prisoners averaging 105 lbs. in weight did well at jail labour on a daily diet, containing nitrogen 201·6 grains, carbon 4,011 grains. From this I derive the three proposed scales as follows:—

1. *Scale No. 1.*—The labour scale is simply the Bombay House of Correction scale, raised and lowered proportionally to the weight of the individuals to be fed.
2. *Scale No. 2.*—The light labour scale is scale No. 1, reduced in the same proportion that the light labour diet of English convicts (Table IV., 12) is lower than English convict hard labour diet (Table IV., 10).
3. *Scale No. 3.*—The bare sustenance scale is scale No. 1, reduced in the same proportion that a mean between Edwin Smith's and Letheby's estimates for bare sustenance (Table IV., 16 and 17) is lower than English convict hard labour diet (Table IV., 10).

On these three scales the quantities of nitrogen and carbon required daily by men averaging 105 lbs. in weight is in grains (Table V.):—

	Nitrogen.	Carbon.
On Scale No. 1, Labour	201·6	4,011
On Scale No. 2, Light labour	173·6	3,528
On Scale No. 3, Bare sustenance	136·7	3,195

These quantities are represented respectively by the following weights in ounces (*a*) of jowari and pulse; (*b*) of bajri and pulse, plus in each case half an ounce of fat:—

	Jowari.	Pulse.	Total.
(<i>a.</i>)—Scale 1, Table VII., columns 3 and 6	16·98	5·62	22·60
" 2, " VIII., " "	15·08	4·68	19·76
" 3, " IX., " "	15·23	2·56	17·79
	Bajri.	Pulse.	Total.
(<i>b.</i>)—Scale 1, Table VII., columns 3 and 9	18·60	4·00	22·60
" 2, " VIII. " "	16·50	3·26	19·76
" 3, " IX., " "	16·67	1·12	17·79

TABLE I.

DAILY ALLOWANCE (exclusive of salt and condiments) of certain INDIAN JAILS.

(*a.*) *Bombay House of Correction (for Labouring Prisoners).*

	Ounces.
Rice	8·0
Wheat	4·57
Bajri	3·43
Dhall	5·0
Vegetables	8·0
Fat	·5

On this diet 534 Native prisoners, all on hard labour, discharged during 1876, gained in weight on an average 1 lb. 10½ oz. each. The average weight of the prisoners on admission was 7 stone 7 lbs. Of the 534 discharged during the year:—

295 gained in weight on an average	4 lbs. 3 oz. each.
102 lost in weight on an average	3 lbs. 8 oz. each.
137 neither gained nor lost weight.	

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Of these prisoners—

130 had been under 3 months in jail.
89 had been over 3 and under 6 months in jail.
217 had been over 6 and under 12 months in jail.
71 had been over 12 and under 24 months in jail.
27 had been 2 years in jail.

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The non-labour diet of the Common Jail, Bombay, is the same as the above, less daily—

	Ounces.
Wheat or bájri - - - - -	2
Dholl - - - - -	1
Vegetables - - - - -	2

On the sufficiency of the reduced scale of wages.

Other Diets.

- (b.) Jails, Hyderabad Assigned Districts, labouring prisoners.
 (c.) New proposed scale for all Indian jails
 (d.) Jails, Hyderabad Assigned Districts, non-labouring prisoners.
 (e.) Oudh jails, non-labouring prisoners.

Daily (exclusive of Salt and Condiments).	Cereals.	Pulses.	Vegetables.	Fatty Matter.
	Ozs.	Ozs.	Ozs.	Grains.
(b.) Hyderabad Assigned Districts (labour) - -	20·7	4·8	3·4	192
(c.) New scale (labour) - - - - -	20·0	4·0	6·0	218·75
(d.) Hyderabad Assigned Districts (non-labour) - -	16·3	4·5	3·4	144
(e.) Oudh (non-labour) - - - - -	17·5	1·5	5·5	90

Dr. Cruickshank, Inspector-General of Prisons, Bombay, in forwarding the above scales, writes:—
 “Please look at the diet scales of the Hyderabad Assigned Districts, where the prisoners are very
 “healthy.”

TABLE II.

FACTORS employed in estimating the value of the various DIETARIES, and in the construction of
 TABLES VII., VIII., and IX.

(1.) Rice	nitrogen, grains per ounce	-	-	-	5·07
(2.) Barley	“	-	(E. Smith)	-	5·81
(3.) Jowari	“	-	(Parkes)	-	5·97
(4.) Common millet	“	-	“	-	6·40
(5.) Maize	“	-	(Mean)	-	6·93
(6.) Bájri	“	-	(Parkes)	-	7·00
(7.) Oatmeal	“	-	(Letheby	-	8·70
(8.) Wheat	“	-	(Mean)	-	9·22
(9.) Pulse	“	-	“	-	17·86
(10.) Succulent vegetables, grains per ounce	-	-	“	-	·70
(11.) Average carbon of cereals and pulse, grains per ounce	-	-	-	-	170·0
(12.) “ of succulent vegetables	-	-	-	-	33·5
(13.) Carbon of fat, grains per ounce	-	-	(Parkes)	-	345·6

See also Appendix.

TABLE III.

VALUE in NITROGEN and CARBON of the INDIAN DIETARIES enumerated in TABLE I.

	Nitrogen, Grains Daily.	Carbon, Grains Daily.
(a.) Bombay House of Correction (labour) - - - - -	201·6	4,011
(b.) Hyderabad Assigned District jails (labour) - - - - -	230·5	4,600
(c.) New proposed scale for all Indian jails (labour) - - - - -	213·2	4,454
(d.) Bombay Common Jail (non-labour) - - - - -	165·8	3,434
(e.) Hyderabad Assigned District jails (non-labour) - - - - -	194·9	3,764
(f.) Oudh jails (non-labour) - - - - -	151·2	3,485

The above values raised $\frac{3}{10}$ ths, or in the proportion of 105 to 150.

(a.) Bombay House of Correction (labour) - - - - -	288	5,730
(b.) Hyderabad Assigned District jails (labour) - - - - -	329	6,571
(c.) New proposed scale for Indian jails (labour) - - - - -	305	6,363
(d.) Bombay Common Jail (non-labour) - - - - -	237	4,906
(e.) Hyderabad Assigned District jails (non-labour) - - - - -	278	5,377
(f.) Oudh jails (non-labour) - - - - -	216	4,979

On the sufficiency of the reduced scale of wages.

TABLE IV.
DAILY NITROGEN and CARBON of EUROPEAN DIETARIES.

	Nitrogen, Grains Daily.	Carbon, Grains Daily.
1. Standard diet (Moleschott)	316.5	4,862
2. " (Parkes, Pavy, Church)	300	4,850
3. Mean for ordinary labour (Letheby)	307	5,688
4. Hard working labourers (Playfair)	389	6,086
5. Active labourers	373	4,473
6. Active labourers, Royal Engineers (Playfair)	350	6,504
7. Moderate exercise (Playfair)	291	5,094
8. English soldier, Home service (Playfair)	293	5,164
9. " " (Parkes)	266	4,718
<i>English Government Convict Establishments.</i>		
10. (a.) Hard labour	281	5,140
11. (b.) Industrial employment	256	4,766
12. (c.) Light labour	242	4,520
13. Mean of English, Scotch, Welsh, and Irish farm labourers (E. Smith)	300	6,478
14. English farm labourers, lowest of the four (E. Smith)	228	5,810
15. Low-fed operatives average (E. Smith)	214	4,881
16. Bare sustenance diet (E. Smith)	200	4,300
17. " " (Letheby)	181	3,888
18. " " (Playfair)	161	3,103

Notes to Table IV.

1. For a male European adult of average height and weight (5 feet 6 inches to 5 feet 10 inches, and 140 to 160 lbs.), in moderate work.
2. Average weight (154 lbs., Church) and moderate work.
3. Mean calculated from researches of various physiologists for adult males.
5. Soldiers during war.
6. Calculated from amount of food consumed by 495 men of the Royal Engineers at work at Chatham.
7. Mean of English, French, Austrian, and Prussian soldiers during peace.
16. Average representing the daily diet of an adult man during periods of idleness.
17. Mean calculated from researches of various physiologists, representing the amount required by an adult man during idleness.

18. Mean of diet of needle-women in London, certain prison dietaries, common dietary for convalescents, Edinburgh Infirmary, average diet during cotton famine of 1862 in Lancashire.

The three diet scales now given (see Tables V. to IX.) are calculated as follows:—

Diet Scale No. 1.—This is the Bombay House of Correction diet ([a.] Tables I. and III.) raised and lowered in proportion to weight. The average weight of the prisoners on admission into the House of Correction being 105 lbs., nitrogen 201.6 grains, carbon 4,011 grains (the value in nitrogen and carbon of the House of Correction diet) is placed opposite the weight, 105 lbs. For every 5 lbs. in weight over or under 105 lbs., $\frac{1}{5}$ of these quantities of nitrogen or carbon is added or deducted as the case may be. It will be observed that at weight 150 lbs., the quantities of nitrogen and carbon become respectively 288 and 5,730 grains. At 150 lbs., therefore, the nitrogen is very slightly above the nitrogen of the English convict hard labour diet (Table IV., 10), viz., 281 grains; the carbon, however, is considerably higher than the carbon of the English convict hard labour diet, viz., 5,730, as compared with 5,140 grains, or 11.47 per cent. higher. Letheby's mean estimate for ordinary labour (Table IV., 3), viz., nitrogen, 307 grains, carbon, 5,688 grains, comes as regards carbon very near diet scale No. 1, at weight 150 lbs. The quantity of nitrogen in Letheby's estimate, however, is higher, viz., 307, as compared with 288 grains.

Diet Scale No. 2.—This is (Diet Scale No. 1) lowered in the same proportion as English convict light labour diet (Table IV., 12) is lower than English convict hard labour diet, i.e., as 281 is to 242 for the nitrogen, and as 5,140 is to 4,250 for the carbon. Lowered in this proportion, the quantities become—

At 105 lbs., nitrogen 173.6 grains, carbon 3,528 grains.
At 150 lbs., " 248.0 " " 5,039 "

At 105 lbs., therefore, Diet Scale No. 2, is very similar in value to the non-labour diet of the Common Jail, Bombay (Table III. [d.]), and somewhat better than the Oudh Jails non-labour diet (Table III. [f.]) at 150 lbs. Diet Scale No. 2 is better than the average diet of low-fed English operatives, as estimated by Edwin Smith (Table IV., 15); it is, of course, also better than the light labour diet of English convict establishments in the same proportion that Diet Scale No. 1 is better than the hard labour diet of the same establishments.

Diet Scale No. 3.—This is calculated as follows:—Of the three estimates for bare sustenance diet the mean of the two highest (Edwin Smith's and Letheby's Table IV., 16 and 17) is nitrogen 190.5, carbon 4,094 grains; both these estimates are for average adult males. Playfair's estimate, (Table IV., 18), which is considerably lower than the other two, is excluded, as it does not wholly refer to adult males. Raising this mean in the same proportion as diet scale No. 1 at 150 lbs., exceeds

English convict hard labour diet, the figures become nitrogen 195·3 grains, carbon 4,564 grains. These quantities placed opposite weight 150 lbs. form the foundation of diet Scale No. 3. For the other weights shown in the table, the quantities are proportionally reduced. Comparing diet Scale No. 3 with Playfair's estimate for bare sustenance (Table IV., 18), it will be seen that the nitrogen of the scale does not run below Playfair's estimate until after weight 125 lbs. is reached, and, similarly, it is only when the weight runs below 105 lbs. that the amount of carbon becomes lower than that given in Playfair's estimate.

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TABLE V.

SHOWING the quantity of NITROGEN and CARBON required daily on each of three scales, viz. :—

- Scale 1.* A labour scale, the Bombay House of Correction diet raised and lowered in proportion to weight.
Scale 2. A light labour scale, Scale No. 1 reduced in the same proportion that English convict light labour diet bears to English convict hard labour diet.
Scale 3. A bare sustenance scale, Scale No. 1 reduced in same proportion that a mean bare sustenance estimate for Europeans (mean of 16 and 17, Table IV.) bears to English convict hard labour diet.

Weight—lbs.	SCALE No. 1, DAILY.		SCALE No. 2, DAILY.		SCALE No. 3, DAILY.	
	Nitrogen, grains.	Carbon, grains.	Nitrogen, grains.	Carbon, grains.	Nitrogen, grains.	Carbon, grains.
80	153·6	3,065	132·3	2,688	104·2	2,434
85	163·2	3,247	140·5	2,856	110·7	2,586
90	172·8	3,438	148·8	3,024	117·2	2,739
95	182·4	3,629	157·0	3,192	123·7	2,891
100	192·0	3,820	165·3	3,360	130·2	3,043
105	201·6	4,011	173·6	3,528	136·7	3,195
110	211·2	4,202	181·9	3,696	143·2	3,347
115	220·8	4,393	190·2	3,864	149·7	3,499
120	230·4	4,584	198·4	4,032	156·3	3,652
125	240·0	4,775	206·7	4,200	162·8	3,804
130	249·6	4,966	21·9	4,368	169·3	3,956
135	259·2	5,157	223·2	4,536	175·8	4,108
140	268·8	5,348	231·5	4,704	182·3	4,260
145	278·4	5,539	239·8	4,872	188·8	4,412
150	288·0	5,730	248·0	5,039	195·3	4,564

TABLE VI.

SHOWING the Total Quantities of mixed CEREAL and PULSE which, plus half an ounce of Fat, are equivalent to the quantities of Nitrogen and Carbon shown in each of the three Scales of Table V.

Weight—lbs.	Scale No. 1, ounces daily.	Scale No. 2, ounces daily.	Scale No. 3, ounces daily.
80	16·98	14·81	13·32
85	18·10	15·80	14·21
90	19·23	16·79	15·11
95	20·35	17·78	16·00
100	21·48	18·77	16·90
105	22·60	19·76	17·79
110	23·72	20·74	18·69
115	24·85	21·73	19·58
120	25·97	22·72	20·48
125	27·10	23·70	21·37
130	28·22	24·69	22·27
135	29·35	25·68	23·16
140	30·47	26·66	24·06
145	31·59	27·65	24·95
150	32·71	28·64	25·85

The three tables which now follow, viz., Tables VII., VIII. and IX., show in what proportions each of the eight cereals—rice, barley, jowári, common millet, báji, maize, oats, and wheat—must respectively be mixed with pulse in order to furnish the quantities of nitrogen and carbon shown on each of the three scales of Table V.

In Tables VII., VIII. and IX. the first two columns give average weights of persons to be fed, and the third column the total quantity in ounces of mixed cereal and pulse which, plus half an ounce of fat,

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will furnish the necessary carbon. The remaining eight columns, each headed by the name of a cereal, give the quantities in ounces of the cereal, which must be abstracted from the total quantity shown in column 3, and replaced (in order to furnish the required nitrogen) by an equal weight of pulse. The examples at the end of the tables show how they may be employed, all three tables are subject to the general remarks following the examples.

TABLE VII.

DIET SCALE No. 1.—LABOUR SCALE.

1. For the weight shown in columns 1, 2, take the quantity (plus always half an ounce of fat) of mixed cereal and pulse shown in column 3.

2. Opposite the quantities shown in column 3, under the name of each cereal, is a number representing the number of ounces of the quantity shown in column 3, which must consist of pulse, the remainder to consist of the cereal heading the column. (See Examples.)

WEIGHT OF INDIVIDUALS TO BE FED.		3.	OUNCES OF CEREAL TO BE REPLACED BY OUNCES OF PULSE (AVERAGE NITROGEN PER OZ. OF PULSE 17·86 GRAINS.)							
1.	2.		4.	5.	6.	7.	8.	9.	10.	11.
Weight in Lbs.	Weight in Stones and Lbs.	Ounces of Cereal and Pulse required + ½ an ounce of Fat daily = (C ÷ 170) - 1.	RICE—Nitrogen per oz. 5·07 grains.	BARLEY—Nitrogen per oz. 5·81 grains.	JOWARI—Nitrogen per oz. 5·97 grains.	COMMON MILLET—Nitrogen per oz. 6·40 grains.	MAIZE—Nitrogen per oz. 6·93 grains.	BAJER—Nitrogen per oz. 7·00 grains.	OATMEAL—Nitrogen per oz. 8·70 grains.	WHEAT—Nitrogen per oz. 9·22 grains.
80	5·10	16·98	5·28	4·56	4·39	3·92	3·29	3·20	·64	—·85
85	6·1	18·10	5·59	4·82	4·64	4·13	3·46	3·36	·63	—·43
90	6·6	19·23	5·89	5·07	4·88	4·34	3·62	3·52	·61	—·52
95	6·11	20·35	6·20	5·33	5·13	4·55	3·79	3·68	·59	—·61
100	7·2	21·48	6·50	5·58	5·37	4·76	3·95	3·84	·57	—·70
105	7·7	22·60	6·81	5·84	5·62	4·97	4·12	4·00	·55	—·79
110	7·12	23·72	7·11	6·09	5·87	5·18	4·28	4·16	·53	—·88
115	8·3	24·85	7·42	6·34	6·09	5·39	4·45	4·32	·50	—·96
120	8·8	25·97	7·72	6·60	6·33	5·60	4·62	4·48	·48	—1·05
125	8·13	27·10	8·03	6·85	6·58	5·81	4·78	4·64	·46	—1·14
130	9·4	28·22	8·33	7·11	6·82	6·02	4·95	4·80	·44	—1·22
135	9·9	29·35	8·64	7·36	7·07	6·23	5·11	4·96	·42	—1·31
140	10·0	30·47	8·94	7·62	7·31	6·44	5·28	5·12	·40	—1·40
145	10·5	31·59	9·25	7·87	7·56	6·55	5·44	5·28	·38	—1·49
150	10·10	32·71	9·55	8·13	7·80	6·86	5·61	5·44	·37	—1·57

TABLE VIII.

DIET SCALE No. 2.—LIGHT LABOUR SCALE.

1. For the weight shown in columns 1, 2, take the quantity (plus always half an ounce of fat) of mixed cereal and pulse shown in column 3.

2. Opposite the quantities shown in column 3, under the name of each cereal, is a number representing the number of ounces of the quantity shown in column 3, which must consist of pulse, the remainder to consist of the cereal heading the column.

WEIGHT OF INDIVIDUALS TO BE FED.		3.	OUNCES OF CEREAL TO BE REPLACED BY OUNCES OF PULSE (AVERAGE NITROGEN PER OZ. OF PULSE 17·86 GRAINS.)							
1.	2.		4.	5.	6.	7.	8.	9.	10.	11.
Weight in Lbs.	Weight in Stones and Lbs.	Ounces of Cereal and Pulse required + ½ an ounce of Fat daily = (C ÷ 170) - 1.	RICE—Nitrogen per oz. 5·07 grains.	BARLEY—Nitrogen per oz. 5·81 grains.	JOWARI—Nitrogen per oz. 5·97 grains.	COMMON MILLET—Nitrogen per oz. 6·40 grains.	MAIZE—Nitrogen per oz. 6·93 grains.	BAJER—Nitrogen per oz. 7·00 grains.	OATMEAL—Nitrogen per oz. 8·70 grains.	WHEAT—Nitrogen per oz. 9·22 grains.
80	5·10	14·81	4·47	3·84	3·69	3·27	2·71	2·63	·37	—·49
85	6·1	15·80	4·72	4·04	3·88	3·44	2·84	2·75	·33	—·60
90	6·6	16·79	4·97	4·25	4·08	3·61	2·97	2·88	·30	—·70
95	6·11	17·78	5·22	4·46	4·28	3·78	3·10	3·00	·26	—·79
100	7·2	18·77	5·47	4·67	4·48	3·95	3·23	3·13	·23	—·88
105	7·7	19·76	5·72	4·88	4·68	4·12	3·36	3·26	·19	—·97
110	7·12	20·74	5·97	5·09	4·88	4·29	3·49	3·38	·16	—1·07
115	8·3	21·73	6·23	5·30	5·08	4·46	3·62	3·51	·12	—1·17
120	8·8	22·72	6·48	5·51	5·28	4·63	3·75	3·63	·09	—1·27
125	8·13	23·70	6·73	5·72	5·48	4·80	3·88	3·75	·05	—1·37
130	9·4	24·69	6·98	5·93	5·68	4·97	4·01	3·88	·02	—1·46
135	9·9	25·68	7·23	6·14	5·88	5·14	4·14	4·00	—·02	—1·56
140	10·0	26·66	7·48	6·35	6·08	5·31	4·27	4·12	—·05	—1·66
145	10·5	27·65	7·73	6·56	6·28	5·48	4·40	4·24	—·08	—1·76
150	10·10	28·64	7·98	6·77	6·48	5·64	4·53	4·37	—·12	—1·86

TABLE IX.

DIET SCALE No. 3.—BARE SUSTENANCE SCALE.

1. For the weight shown in columns 1, 2, take the quantity (plus always half an ounce of fat) of mixed cereal and pulse shown in column 3.

2. Opposite the quantities shown in column 3, under the name of each cereal, is a number representing the number of ounces of the quantity shown in column 3, which must consist of pulse, the remainder to consist of the cereal heading the column.

On the sufficiency of the reduced scale of wages.

WEIGHT OF INDIVIDUALS TO BE FED.		3.	OUNCES OF CEREAL TO BE REPLACED BY OUNCES OF PULSE (AVERAGE NITROGEN PER OZ. OF PULSE 17·86 GRAINS.							
1.	2.		4.	5.	6.	7.	8.	9.	10.	11.
Weight in Lbs.	Weight in Stones and Lbs.	Ounces of Cereal and Pulse required + $\frac{1}{2}$ an ounce of Fat daily = (C ÷ 170) — 1.	RICE—Nitrogen per oz. 5·07 grains.	BARLEY—Nitrogen per oz. 5·81 grains.	JOVARI—Nitrogen per oz. 5·97 grains.	COMMON MILLET—Nitrogen per oz. 6·40 grains.	MAIZE—Nitrogen per oz. 6·33 grains.	BÁJRI—Nitrogen per oz. 7·00 grains.	OATMEAL—Nitrogen per oz. 8·70 grains.	WHEAT—Nitrogen per oz. 9·22 grains.
80	5·10	13·32	2·85	2·23	2·08	1·65	1·09	1·01	—1·27	—2·03
85	6·1	14·21	3·01	2·34	2·18	1·71	1·12	1·03	—1·41	—2·22
90	6·6	15·11	3·16	2·45	2·28	1·78	1·15	1·05	—1·55	—2·42
95	6·11	16·00	3·32	2·56	2·37	1·85	1·17	1·07	—1·69	—2·61
100	7·2	16·90	3·47	2·66	2·47	1·92	1·20	1·10	—1·83	—2·80
105	7·7	17·79	3·63	2·77	2·56	1·99	1·22	1·12	—1·97	—2·99
110	7·12	18·69	3·78	2·88	2·66	2·06	1·25	1·14	—2·11	—3·18
115	8·3	19·58	3·94	2·98	2·76	2·13	1·28	1·16	—2·25	—3·37
120	8·8	20·48	4·10	3·09	2·86	2·19	1·31	1·19	—2·39	—3·56
125	8·13	21·37	4·25	3·20	2·96	2·26	1·34	1·21	—2·53	—3·75
130	9·4	22·27	4·41	3·30	3·05	2·33	1·36	1·23	—2·67	—3·94
135	9·9	23·16	4·56	3·41	3·15	2·39	1·39	1·26	—2·81	—4·13
140	10·0	24·06	4·72	3·52	3·25	2·46	1·42	1·28	—2·95	—4·32
145	10·5	24·95	4·87	3·63	3·35	2·53	1·45	1·30	—3·09	—4·51
150	10·10	25·85	5·03	3·74	3·45	2·60	1·48	1·32	—3·23	—4·70

EXAMPLES illustrating the method of employing Tables VII., VIII., and IX.

Average weight of individuals to be fed say 105 lbs. (= 7 stone 7 lbs. (Table V. shows that—for this weight, the amount of nitrogen and carbon daily required is in grains—

	Nitrogen.	Carbon.
On Scale 1.—The labour scale	201·6	4,011
On Scale 2.—Light labour scale	173·6	3,528
On Scale 3.—Bare sustenance scale	136·7	3,195

Table VI. shows that these quantities of nitrogen and carbon may be supplied by the following quantities of mixed cereal and pulse plus half an ounce of fat, *e.g.*, ghee or oil, viz.:—

For Scale No. 1	22·60 ounces.
For Scale No. 2	19·76 „
For Scale No. 3	17·79 „

The proportions which the cereal and pulse should bear to one another in the 22·60 ounces required by Scale No. 1 are shown for each of 8 cereal grains in Table VII. Tables VIII. and IX. show similarly the proportions which the cereal and pulse should bear to one another in respectively the 19·76 ounces required on Scale 2, and the 17·79 ounces required on Scale 3.

One or two examples will serve to show how from the tables these proportions can be ascertained. Take for example the 22·60 ounces of cereal and pulse required for men averaging 105 lbs. in weight on Scale No. 1. A reference to Table VII. shows, opposite 105 lbs. in the column headed Rice (column No. 4), the number 6·81; this means that if rice is the cereal given 6·81 ounces out of the 22·60 ounces of mixed cereal and pulse must consist of pulse and the remainder 15·79 ounces of rice. These quantities, plus half an ounce of fat, will supply the amount of nitrogen and carbon required. The calculation may be proved by employing the factors given in Table II., thus—

Rice	15·79 × 5·07 =	Nitrogen grains	80·0
Pulse	6·81 × 17·86 =	ditto	121·6

22·60 oz. mixed rice and pulse = 201·6

Calculation for carbon 22·60 × 170 = 3,842 grains
plus for half an ounce fat - 172 „

= Total carbon grains - 4,015

or if instead of rice the cereal employed is *bājri*, in column 9, Table VII. under *bājri*, opposite 105 lbs., is the number 4·00. Hence of the 22·60 ounces of mixed cereal and pulse (column 3, Table VII.) 4·00 ounces must be pulse if *bājri* is the cereal used.

Proof.

Bājri	18·60 × 7·00 =	Nitrogen grains	130·20
Pulse	4·00 × 17·86 =	ditto	71·44

22·60 oz. mixed *bājri* and pulse = 201·64

Calculation for carbon as in previous example.

On the sufficiency of the reduced scale of wages.

Where, as in column 11, Tables VII., VIII., and IX., and in column 10, Table IX., and the last portion of column 10, Table VIII., the figures of the column are preceded by a minus sign, no pulse need be employed; the number of ounces of the cereal heading the column shown opposite the weight containing more than the required quantity of nitrogen,—*e.g.*, the 22·60 ounces required on Scale 1, for men averaging 105 lbs. in weight contain in the case of wheat $22·60 \times 9·22 = 208·37$ grains of nitrogen, a quantity slightly in excess of that (201·6) required by the scale. These minus figures come into use when mixed cereals are employed, as will be seen by the following examples:—

1. Men, averaging 120 lbs., require on Scale 1 (*see* Table V.) nitrogen 230·4 grains, carbon 4,584 grains daily. The number of ounces of cereal and pulse necessary (*see* Table VI.) is 25·97. If the cereals available are rice and bājri in about equal proportions the calculation becomes—

$$\begin{array}{rcl} \text{Rice} & - & 25·97 - 7·72 \text{ (see Table VII., col. 4)} = 18·25 \div 2 = 9·12 \text{ oz.} \\ \text{Bājri} & - & 25·97 - 4·48 \text{ (see Table VII., col. 9)} = 21·49 \div 2 = 10·75 \text{ „} \\ \text{Pulse} & - & 7·72 + 4·48 = 12·20 \div 2 = 6·10 \text{ „} \end{array}$$

Proof.

$$\begin{array}{rcl} \text{Rice} & - & 9·12 \times 5·07 = \text{Nitrogen grains} & - & 46·24 \\ \text{Bājri} & - & 10·75 \times 7·00 = & \text{do.} & 75·25 \\ \text{Pulse} & - & 6·10 \times 17·86 = & \text{do.} & 108·95 \end{array}$$

$$25·97 \text{ oz. mixed cereal and pulse} = 230·44$$

Calculation for carbon $25·97 \times 170 = 4,415$ grains.

Plus for $\frac{1}{2}$ an oz. fat 172 „

= Total carbon 4,587 „

2. If, however, the cereals to be used are rice and wheat, then the use of the minus figures under wheat is shown as follows:—

$$\begin{array}{rcl} \text{Rice} & - & 25·97 - 7·72 \text{ (see Table VII., col. 4)} = 18·25 \div 2 = 9·12 \text{ oz.} \\ \text{Wheat} & - & 25·97 + 1·05 \text{ (see Table VII., col. 11)} = 27·02 \div 2 = 13·51 \text{ „} \\ \text{Pulse} & - & 7·72 - 1·05 = 6·67 \div 2 = 3·34 \text{ „} \end{array}$$

Proof.

$$\begin{array}{rcl} \text{Rice} & - & 9·12 \times 5·07 = \text{Nitrogen grains} & - & 46·24 \\ \text{Wheat} & - & 13·51 \times 9·92 = & \text{do.} & 124·56 \\ \text{Pulse} & - & 3·34 \times 17·86 = & \text{do.} & 59·65 \end{array}$$

$$25·97 \text{ oz. mixed cereals and pulse} = 230·45$$

Calculation for carbon as in previous example.

It will be observed that in this last example the minus figures of the wheat column are added to the wheat and deducted from the pulse, and are employed in fact in exactly the reverse way to that in which the figures unpreceded by a minus sign are employed.

General Remarks applicable to all Three Scales.

1. It of course must be understood that the weights for which these scales are calculated are weights of individuals fairly nourished, not weights of individuals reduced by disease or famine below the normal condition.

2. The Tables VII., VIII., and IX. are based on the supposition that grains fairly clean and fairly free from husk are employed. Should this not be the case a proportionate allowance must be made. Taking all circumstances into consideration, it seems to me that (save in very exceptional cases) an increase of 5 per cent. on the quantities of grain shown in the tables would fairly suffice as compensation for husk.

3. Where a cereal is so deficient in nitrogen that a large proportion of it requires to be replaced by pulse, it is desirable to mix it with a more nitrogenous cereal, so that a smaller quantity of pulse may suffice, *e.g.*, rice, especially on Scale 1, and in a less degree on Scale 2, (*see* Tables VII. and VIII., column 4), may advantageously be mixed with wheat or bājri.

4. Where a cereal is so rich in nitrogen that according to the tables little or no pulse is required to be mixed with it, no objection exists to replacing a larger proportion of it by pulse than is by the tables shown to be necessary, provided always that the total quantity of pulse given is kept within reasonable limits, say under 4 to 5 ounces.

5. If on any of the scales the quantity of fat given is raised from $\frac{1}{2}$ an ounce to 1 ounce, a withdrawal of $1\frac{1}{2}$ ounces of cereal and an addition of $\frac{1}{2}$ an ounce of pulse serves to compensate for the change.

Note in regard to the Limits of Error of the Tables.

It will be observed that the amount of carbon required regulates the aggregate quantity of cereal and pulse, while the amount of nitrogen required regulates the proportion which pulse ought to bear to cereal.

In calculating the value of the Bombay House of Correction diet and in constructing Tables VI. to IX., all cereals and pulses have been assumed to contain 170 grains per ounce of carbon.

The probable limits of error due to this assumption of a uniform carbon value for all cereals and pulses may be stated as follows.

It will be observed that the three scales of Tables V. to IX., are comparable (weight for weight) with certain European scales, viz. :—

Scale No. 1 with English convict hard labour diet.

Scale No. 2 with English convict light labour diet.

Scale No. 3 with a mean bare sustenance estimate for male European adults.

And that as regards carbon the three scales of the tables are just 11·5 per cent. richer than the corresponding European scales.

Now suppose that the cereals and pulse supplied to the Bombay House of Correction were exceptionally rich in carbon and contained 175 instead of 170 grains of carbon per ounce, then in order to keep up the correspondence of the three scales with the amended value of the Bombay House of Correction diet, the quantities of carbon shown in Table V. would have to be raised from 11·5 to 14·4 per cent. above the quantities of carbon contained in the corresponding European scales.

Taking an extreme case the other way, suppose that in any particular instance the cereals and pulse available for food-supply happen to be so exceptionally poor in carbon as to contain only 155 instead of 170 grains per ounce,—then the amounts of carbon yielded by the quantities of cereal and pulse laid down in the tables for the three scales would only be 1·9 per cent. higher than the quantities contained in the corresponding European scales.

Hence, even with the cereals and pulses exceptionally poor in carbon, the quantities of cereal and pulse provided by the three scales would still yield 1·9 per cent. more carbon than is contained in the corresponding European scales ;

Hence also, even with cereals and pulse exceptionally poor in carbon, an increase of ten per cent. on the quantities laid down in Tables VI. to IX., would raise the carbon value of the three scales to that shown in Table V. ;

Hence also, even supposing that the cereals and pulse supplied to the Bombay House of Correction were exceptionally rich in carbon and the cereals and pulse available for food-supply happen to be exceptionally poor in carbon, an increase of 12½ per cent. on the quantities of cereals and pulse, laid down in Tables VI. to IX., would bring the carbon value of the three scales into correspondence with the carbon value of the Bombay House of Correction diet, and would raise the carbon value of the same scales to 14·4 per cent. above that of the corresponding European dietaries.

The possible nitrogen error of the scales is more difficult to estimate. An error due to over-estimation of the quantity of nitrogen in a cereal or pulse would be always to some extent met by any increase (as allowance for deficient carbon [see above]) of the aggregate quantity of cereal and pulse laid down in Table VI. Any minus nitrogen error not met in this way must be met by increased replacement of pulse for cereal.

I. B. LYON, F.C.S., Surgeon,

Chemical Analyser to Government, Bombay.

APPENDIX.

DATA FROM WHICH THE FACTORS OF TABLE II. HAVE BEEN DERIVED.

Nitrogen of Cereals.

Grains per ounce.

A. Rice—

Calculated from Letheby	-	-	-	-	-	4·34
" " Polson	-	-	-	-	-	4·96
" " Poggiale	-	-	-	-	-	5·39
Rice supplied to a hospital in Bombay (Lyon)	-	-	-	-	-	5·77

B. Barley—

Calculated from E. Smith	-	-	-	-	-	5·81
" " Payen	-	-	-	-	-	7·68
" " Fehling and Faisst	-	-	-	-	-	8·14
" " Polson	-	-	-	-	-	9·12
" " Poggiale	-	-	-	-	-	5·39
" " Mayer	-	-	-	-	-	7·85

C. Jowari—

Mean of three samples (Lyon)	-	-	-	-	-	7·01
Calculated from Parkes	-	-	-	-	-	5·97
" " Church	-	-	-	-	-	5·65

D. Common Millet—

Panicum Milliaceum (free from bran), Parkes	-	-	-	-	-	6·40
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E. Bajri—

Calculated from Parkes (free from bran)	-	-	-	-	-	7·00
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F. Maize—

Calculated from Letheby	-	-	-	-	-	7·66
" " Polson (mean of four)	-	-	-	-	-	6·08
" " Poggiale	-	-	-	-	-	6·84
" " Mayer	-	-	-	-	-	6·62
" " Payen	-	-	-	-	-	7·44

On the sufficiency of the reduced scale of wages.

On the sufficiency of the reduced scale of wages.

G. Oats—

Oatmeal calculated from Letheby	-	-	-	-	-	-	8.70
Oats calculated from Fehling and Faisst, mean	-	-	-	-	-	-	7.87
„ „ „ Poggiale, mean	-	-	-	-	-	-	7.74
„ „ „ Mayer, mean	-	-	-	-	-	-	6.49

H. Wheat—

Parkes (wheat-flour)	-	-	-	-	-	-	7.60
Wheat calculated from Peligot	-	-	-	-	-	-	10.09
Wheat-flour „ „ Payen	-	-	-	-	-	-	9.98
„ „ „ Wanklyn	-	-	-	-	-	-	8.29
„ from a hospital in Bombay (Lyon)	-	-	-	-	-	-	10.15

Nitrogen of Pulses.

Grains per ounce.

Toor dhal (calculated from Forbes Watson)	-	-	-	-	-	-	15.31
Indian pea	-	-	-	-	-	-	17.09
Bhoot	-	-	-	-	-	-	26.84
Cooltee	-	-	-	-	-	-	16.08
Mussoor	-	-	-	-	-	-	17.38
Gram	-	-	-	-	-	-	15.69
„ „ „ Parkes	-	-	-	-	-	-	16.76
Mulmunda (Gray)	-	-	-	-	-	-	20.56
Toor dhal, from a hospital in Bombay (Lyon)	-	-	-	-	-	-	18.29
Ooreed (Lyon)	-	-	-	-	-	-	

Nitrogen per ounce.

Moog (Lyon)	-	-	-	-	-	-	15.70
Mussoor „	-	-	-	-	-	-	16.28
Muthi „	-	-	-	-	-	-	19.73
Muth „	-	-	-	-	-	-	20.43
Gram „	-	-	-	-	-	-	14.00
Mean of all	-	-	-	-	-	-	17.86

Carbon—of Cereals and Pulses.

Grains per ounce.

Rice (Parkes)	-	-	-	-	-	-	176
„ (Lyon), from a hospital in Bombay	-	-	-	-	-	-	179.10
„ „ mean of 4 samples	-	-	-	-	-	-	171.09
Barley, calculated from Fehling and Faisst (cellulose 10—11 per cent.)	-	-	-	-	-	-	160.5
„ „ calculated from Church	-	-	-	-	-	-	164.6
Jawári, mean of 3 (Lyon)	-	-	-	-	-	-	161.3
Millet, free from bran (Parkes)	-	-	-	-	-	-	183.16
„ „ “free from husk” (Church)	-	-	-	-	-	-	172.58
Maize (Parkes)	-	-	-	-	-	-	176
Oatmeal „	-	-	-	-	-	-	172
Wheat-flour „	-	-	-	-	-	-	169
„ (Lyon) from a hospital in Bombay	-	-	-	-	-	-	177.4
Dhall (Toor) „ „	-	-	-	-	-	-	187.3
Muth „	-	-	-	-	-	-	168.87
Gram „	-	-	-	-	-	-	169.89
Moog „	-	-	-	-	-	-	158.68

Nitrogen and Carbon of Succulent Vegetables.

Grains per ounce.

Nitrogen, potatoes (Parkes)	-	-	-	-	-	-	.1
„ „ carrots „	-	-	-	-	-	-	.4
Mean nitrogen	-	-	-	-	-	-	.7
Carbon, potatoes (Parkes)	-	-	-	-	-	-	49
„ „ carrots „	-	-	-	-	-	-	18
Mean carbon	-	-	-	-	-	-	33.5

No. 256.

No. 249.

No. 423, dated Simla, 8th May 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF MADRAS.

On the large employment of Public Works agency in Madras.

His Excellency the Governor-General in Council having had under his consideration the subject of the larger employment of Public Works agency in the Madras Presidency, I am directed to communicate the following observations.

2. Sir Richard Temple has made to the Government of Madras, on the dates specified in the margin, various representations on this important subject. While admitting that in many of the Madras districts relief has been economically managed from the first, he points out that in others the numbers in receipt of relief are apparently excessive compared with equally distressed localities elsewhere, that the number of relief labourers in the Madras Presidency under Public Works agency is only $11\frac{1}{2}$ per cent. of the total number on the works, and that the utilisation of such agency in the Salem district has been attended with the most beneficial results. He also dwells on the advantage of the Civil officers being so relieved as to give more time to village inspection.

3. The Madras Government, in paragraph 8 of their Despatch to the Secretary of State, No. 25 of the 7th ultimo, while recognising the advantages of Public Works agency, apparently consider its employment to a greater extent than at present not practicable owing to the insufficiency of large works in the presidency generally, and the impossibility of devising them in certain districts.

4. There would appear, I am directed to observe, to be some misapprehension arising from different applications of the term "large works." In so far as it extends to undertakings of primary magnitude, such as the East Coast Canal and other irrigational projects, there may be, as indicated in Sir Richard Temple's own minute of February 10th, some difficulty in devising them in the Madras Presidency, or at any rate in doing so in time to be of use in the present juncture. But the term would appear to be used by Sir Richard Temple in his minutes above referred to in the more limited sense of works capable of employing about 1,200 to 1,500 labourers and upwards. This is the sense in which the term is used in the Bombay Presidency, and a reference to paragraph 9 of the Bombay Weekly Statement No. XXIV. ("Gazette of India," May 5th) will show that of the large works upon which the Public Works agency is found to be so advantageous 15 have less than 2,000 labourers, and only 16 more than 5,000, employed upon them. And of large works, using the term in the same sense, there would appear to be no lack in the Madras Presidency, for it appears from the proceedings of the Board of Revenue, No. 1,817 of the 20th ultimo, paragraph 9, that 66 per cent. of the total number of labourers are employed upon works having 1,500 and upwards, and that the average number per work is no less than 4,591.

5. His Excellency the Governor-General in Council has observed with satisfaction that the Madras Government have, in their proceedings No. 1,331 (Revenue Department), dated the 4th ultimo, invited the opinions of the Collectors and the Public Works Department upon the question of further utilisation of the latter, but trusts that in view of the explanations above given and the success of the system in Bombay after ample trial, his Grace the Governor in Council will be able at an early date to authorise its introduction, especially in Bellary and Kurnool, where the numbers on relief works are apparently the most excessive.

No. 250.

No. 256.

No. 1,384 R., dated 9th May 1877.

From the SECRETARY TO THE GOVERNMENT OF INDIA, Public Works Department, to the CONSULTING ENGINEER TO THE GOVERNMENT OF INDIA.

I am directed to acknowledge the receipt of your letters Nos. 915 and 929, dated the 17th and 19th April 1877 respectively, the former forwarding a comparative statement of the goods lying at stations on the East Indian Railway, and the latter a statement showing the accumulations of grain at stations on the Jubbulpore line on the 1st and 28th March, and the quantities despatched between these dates. Railway grain traffic.

2. From the latter statement it is observed that between the 1st and 28th March 136,528 maunds, about 5,000 tons, were removed, 500 waggons in 28 days, or say 18 waggons daily, and the accumulations were reduced from 49,485 to 39,700 maunds, *i.e.*, by 10,000 maunds=360 tons, but the figures given in the first-named statement show that the accumulation increased during the month of March by 900 tons. I am to invite your attention to this apparent discrepancy.

3. On the whole the Government of India accepts the work done, and considers the clearances on the main line satisfactory.

4. I am to take this opportunity to forward, for the purpose of being placed before the Agent, East Indian Railway, for any observations he may desire to make, extracts from a communication from the Agent, Great Indian Peninsula Railway Company, written after perusal of Lieutenant Scott's note dated 13th February 1877, on the accumulation of grain at stations on the East Indian Railway.

5. I am to add that the Government of India is of opinion that on the whole more good may probably be done by the managements of the two Companies looking the difficulty fairly in the face and endeavouring to meet it by mutual concessions and friendly co-operation than by indulging in charges and counter-charges. The traffic, it cannot be denied, on these two principal railways, notably on the Great Indian Peninsula Railway, is more than can be dealt with by existing means and appliances, but the agreement for through traffic which, as it stands, and during the present pressure, is inconvenient for the East Indian Railway Company, cannot be ignored.

No. 251.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.
Revenue, No. 43.

India Office, London, 10th May 1877.

Para. 1. I have to inform your Excellency in Council that, on the 3rd of May, the following message was addressed by me to your Lordship:—

“ Secretary of State to Viceroy.

On the sufficiency of the reduced scale of wages.

“ Accounts reach me from many quarters expressing serious fear that insufficiency of relief food on famine works, especially in Madras, is producing diseases of exhaustion, and will end in great mortality. Matter requires extreme vigilance, and if there is any real cause for apprehension, it will be better not to place too much restriction on Local Government. Our medical authorities are alarmed by accounts, official and other.”

2. To this telegram I have received your reply, dated 6th May, and returned by telegraph the following message on the 8th:—

“ I think, if it has not already been done, that my telegram of the 3rd, and yours in reply, should be communicated to the Government of Madras.”

I have, &c.

(Signed) SALISBURY.

No. 252.

No. 340 E.—1098, dated 11th May 1877.

From the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department, to the SECRETARY TO THE GOVERNMENT OF INDIA.

No. 248.

I am directed by his Excellency the Governor in Council to forward, for the information of the Government of India, a memorandum, prepared by Surgeon-Major Lyon, chemical analyser to Government, and to observe that this able and interesting paper appears to throw light on the question recently raised, and still under discussion, as to the sufficiency of a ration based on 1 lb. of grain a day for a relief labourer.

2. The calculations by Dr. Lyon, which are deduced from actual experience, and are not purely theoretical, seem to show that a ration based on 1 lb. of grain is sufficient for the sustenance of persons not performing severe labour.

No. 256.

No. 253.

Telegram dated 12th May 1877.

From REVENUE ADDITIONAL SECRETARY, Simla, to SECRETARY OF STATE, London.

The deputation of Dr. Townsend.

Paragraphs 7 and 9 of Madras Government's Despatches to your Lordship, dated 7th and 14th ultimo. We have explained to that Government that Dr. Townsend, our

Sanitary Commissioner, was not sent on an independent mission, but merely placed under Temple at his request to aid him in conducting certain inquiries which he desired to institute in Madras and Bombay Presidencies, and that for this reason we did not deem it necessary to make any communication to either Government on the subject. We have since received a letter from Temple drawing attention to passage of Madras Despatch above referred to, and explaining that Townsend's early departure from Madras Presidency was imperative, owing to ill-health.

No. 254.

No. 256.

No. 441, dated Simla, 12th May 1877.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the ADDITIONAL SECRETARY TO THE GOVERNMENT OF MADRAS, Revenue Department.

His Excellency the Governor General in Council has had under his consideration Sir Richard Temple's Minute of the 22nd ultimo, in which, after recognising the humane care and the skill with which the large relief camps are conducted, he remarks as follows:—

No. 229.

“But still the fact remains that the death-rate among the inmates of camps is terribly high; that such diseases as are engendered among gatherings of poor people appear and re-appear, and that the air and surroundings of these camps are very depressing. For the little children especially the life must be very depressing indeed. Some of these troubles will, I fear, be aggravated when rain and cold come on, and make relief camp life even less endurable than it now is.”

On the removal of the very helpless from relief camps to their own homes.

The remedy which Sir Richard Temple suggests is the gradual drafting off of the inmates of these camps to their own homes, to be there cared for under the system of house-to-house visitation and village relief.

2. His Excellency the Governor-General in Council considers Sir Richard Temple's suggestion to be deserving of consideration, especially in view of the approach of the rainy season, and would be glad to be informed of the views of his Grace the Governor in Council on the subject. It is obvious that, in order that the measure proposed may be safely carried out, considerable efficiency in the system of village relief is indispensable. The system has now, it is believed, been organised in most of the distressed districts, but his Excellency the Governor-General would wish that no pains or expense should be spared to render it thoroughly efficient, while confining, of course, its action to those only who are not able-bodied and capable of being drafted on to the works. There seems every reason to hope that this end would be materially furthered if the civil officers were enabled by the larger employment of Public Works agency, as suggested in my letter No. 423 of the 8th instant, to give more of their time and attention to the subject.

No. 255.

No. 262.

MEMORANDUM by Dr. J. B. LYON, Chemical Analyser to Government, as to the Dynamic Value of the task exacted from Labourers on Relief Works.

Bombay, May 12, 1877.

Parkes' (Manual of Hygiene, page 389) states:—“It would, therefore seem certain that an amount of work equal to 500 tons lifted one foot is an extremely hard day's work, which, perhaps, few men could continue to do. 400 tons lifted a foot is a hard day's work, and 300 tons lifted a foot is an average day's work, for a healthy strong adult.”

The Dynamic value of the task demanded from relief labourers.

“The Reverend Professor Houghton, M.D., has shown that walking on a level surface is equivalent to raising $\frac{1}{10}$ part of the weight of the body through the distance walked. * * * The formula is $\frac{(W+W') \times D}{20 \times 2240}$, where W is the weight of the person, W' the weight carried, D the distance walked in feet, 20 the coefficient of traction, and 2,240 the number of pounds in a ton, the result is the number of tons raised one foot” (Parkes *loc cit*).

The Dynamic value of the task demanded from relief labourers.

Taking 105 lbs. as the weight of a native labourer, and reducing Parkes' estimate of an average day's work in proportion to this weight as compared with 150 lbs. (the weight of an average male European adult), we have as $150 : 105 :: 300 : 210$. 210 tons lifted a foot is, therefore, Parkes' estimate of an average day's work, reduced proportionally to weight.

Using Haughton's formula, we find that a man weighing 105 lbs. and carrying 10 lbs., walking on a level, does work equal to lifting 13.51 tons one foot for each mile walked; for $(105+10) \times 5280 \div 20 = 30,260$ foot pounds $\div 2,240 = 13.509$ foot-tons.

Also $210 \div 13.51 = 15.55$. Hence, a man weighing 105 lbs. and carrying 10 lbs. in walking on a level 15.55 miles, does work equal to raising 210 tons one foot, *i.e.*, an average day's work of 300 foot-tons reduced proportionally to his weight.

"The basis of the task system upon irrigation works is that in ordinary times, when the lift does not exceed 4 feet, and the lead does not exceed 50 feet, 100 cubic feet of black or red soil can be excavated and disposed of by one man, one woman, and one child, and therefore at the present time 75 cubic feet only is to be exacted * * * I am therefore of opinion that under the existing orders of Government the present task set by Colonel Finch is too high, and should be reduced to 75 cubic feet for Public Works Department, and to 50 cubic feet for Civil Agency Works."—(Colonel Merriman, R.E., Chief Engineer for Irrigation, Bombay. No. 1,516, dated 5th March 1877, para. 3.)

Estimation of the Dynamic Value of a task of excavating and disposing of 75 cubic feet of black or red soil with a 4 foot lift and 50 feet lead, the task demanded on relief works under Public Works superintendence from a man, woman, and child.

For the purpose of calculation, the above task may be stated something in the following way:—

1. Excavation and filling baskets, say 3 baskets to a cubic foot.

2. Lifting the baskets on to the heads of the carriers, say 5 feet 6 inches; say 80 lbs. to the cubic foot; allow 2 lbs. for weight of basket.

3. Carrying away the earth and returning with the empty baskets.

1. *Excavating and filling baskets.*—A rather low estimate of a day's work for an English labourer employed in excavating earth and filling wheelbarrows is 270 cubic feet. Taking the dynamic value of this to be 350 foot-tons, 75 cubic feet = 97.2 foot-tons.

2. *Lifting the baskets on to the heads of the carriers.*— $86 \times 75 \times \frac{1}{2} = 35,745$ foot-lbs. $\div 2,240 = 15.84$ foot-tons.

3. *Carrying.*—Take for this $75 \times 3 = 225$ trips. The work of each trip consists of *a'*. 105 lbs. (weight of body) + 5 lbs. (for clothes and baskets) + 26.66 lbs. ($= 80 \div 3$ or weight of earth) lifted 4 feet + $50 \div 20$ (for lead) = total lift $6\frac{1}{2}$ feet = 136.66 lbs. $\times 6.5$ feet = 888.3 foot lbs.; *b'*. Return with empty basket $110 \times 2.5 = 275$ foot-lbs. —Hence $888.3 + 275 \times 225 \div 2,240 = 116.85$ foot-tons.

Hence, supposing the whole task to be done by a man weighing 105 lbs., its dynamic value is $97.2 + 15.84 + 116.85 =$ say 230 foot-tons. This, however, is the whole task demanded from a man, woman, and child. Taking the man's work at half of this, we have 115 foot-tons as the dynamic value of the day's work of a man weighing 105 lbs. employed on relief works under Public Works superintendence.

Again, on relief works under Civil Agency two thirds only of the above task is required = $153\frac{1}{3}$ foot-tons for the whole task of a man, woman, and child; and taking, as before, half of this to be the proportion done by the man, we have $76\frac{2}{3}$ foot-tons as the dynamic value of the task demanded from men weighing 105 lbs. employed on relief works under Civil Agency.

Hence, taking 210 foot-tons as an average day's work for a man weighing 105 lbs. (see *ante*) the task of 115 foot-tons demanded from a man (weight assumed as 105 lbs.) on relief works under Public Works superintendence amounts only to 54.75 per cent. of an average day's work. Similarly, $76\frac{2}{3}$ foot-tons, the task demanded on relief-works under Civil Agency from a man (assumed weight 105 lbs.) amounts only to 36.6 per cent. of 210 foot-tons, *i.e.*, 36.6 per cent. of an average day's work.

Stated in another way:—it has already been shown that a man weighing 105 lbs. and carrying 10 lbs, walking on level ground does work = 13.51 foot-tons for every mile

walked. Hence, as $115 \div 13.51 = 8.52$, and as $76\frac{2}{3} \div 13.51 = 5.68$, the task demanded from a man weighing 105 lbs. on relief works under Public Works superintendence is just equal to the work which he would do in walking 8.52 miles on level ground carrying 10 lbs. Similarly, the work demanded from a man weighing 105 lbs. on relief works under Civil agency is just equivalent to the work which the same man would do in walking 5.68 miles on level ground, carrying 10 lbs.

The Dynamic value of the task demanded from relief labourers.

To show now that Natives of India are capable of doing work in proportion to their weight, reckoning 300 foot-tons as an average day's work for a man weighing 150 lbs., I cite the two following instances :—

1. An ordinary day's work for 12 palkee bearers is to carry a palkee down from Matheran to Narel and bring it back from Narel to Matheran with a person inside. The distance from Narel to Matheran is 7 miles; the height of Matheran above Narel is 2,377 feet. One of the palkees was found to weigh 195 lbs., and the average weight of the bearers was found to be 117 lbs. as they stood, say, 115 lbs. + 2 lbs. for clothes. Taking the up-journey only, and supposing the individual inside the palkee to weigh 125 lbs., the load of each bearer = $195 + 125 \div 12 = 26.66$ lbs; and $26.66 + 117 = 143.66$ lbs. lift 2,377 feet; + for the seven miles carried $5,280 \times 7 \div 20 = 1,848$ feet; $143.66 \times (2,377 + 1,848) \div 2,240 = 270.96$ foot-tons. The work, therefore, of the up-journey only = 270.96 foot-tons, considerably above 230 foot-tons, i.e., 300 foot-tons reduced in the proportion 150 to 115.

2. The recognised load for a Narel coolie is 40 lbs. This, although brought up to the same height, is carried generally a part of the way by short cuts, reducing the distance walked to about 5 miles. Hence, $117 + 40 = 157$ lbs. lifted 2,377 feet + for the five miles $5,280 \times 5 \div 20 = 1,320$ feet, and $157 \times (2,377 + 1,320) \div 2,240 = 259$ foot-tons. Taking no account of the walk back unloaded, this is also considerably above 230 foot-tons, i.e. 300 foot-tons, reduced in the proportion 150 to 115.

No. 256.

No. 24 of 1877.

GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce, to the
SECRETARY OF STATE FOR INDIA.

Simla, the 17th May 1877.

By the last mail your Lordship will have received, in an extra supplement of the "Gazette of India," our proceedings of the 5th instant,* reviewing the returns received from the Government of Madras in reply to our calls of the 25th October and 2nd December last.

Review of Madras returns.

* No. 246.

2. We have felt it our duty not to pass by without comment the great delay in submission, and the inaccuracy and incompleteness, which are, with some exceptions, characteristic of the reports of the local officers, because we feel assured that a careful and temperate inquiry into the real facts of the case at a very early stage is essential to the successful combating of famine, and that had any such inquiry taken place in the instance of the Presidency of Madras, the general policy of the Government would probably have been different in some important respects from what it actually has been. The inaccuracy and incompleteness of the reports had, indeed, been already noticed by the Madras Board of Revenue, who have recorded in various instances, with reference to particular items, that they have "not been estimated on any uniform principle," "are based on no careful calculation," "are decidedly wrong," and have more than once pointed out that errors arose from the omission of some important and obvious element in the calculations or the returns. While noticing these defects, which have impaired the value of a public record, and prevented its use at the time and in the manner which we had contemplated, we have had great pleasure in hearing testimony to the individual zeal, humanity, and loyalty, which have been exhibited by the local officers of the Madras Presidency under the very difficult and exceptional circumstances by which they were surrounded.

3. The returns embrace particulars of 121 taluks or subdivisions of districts, with an area of 81,852 square miles, and a population of 18,592,534 souls. Considering as affected by famine all taluks in which the crop saved has reached but has not exceeded one-half, a proportion which we think the most appropriate because the returns tend from various causes to make matters seem better than they are, the actually affected area is 71,849 square miles, and the affected population 15,432,393. The affected area and population thus exceed considerably the similar figures for Bombay and Mysore

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Madras re-
turns.

combined, and the proportion affected to the total similarly preponderates. The statistics of rainfall give results only slightly more unfavourable than those of the Bombay Presidency, but the peculiarity that Madras depends, in varying proportions, upon two monsoons instead of one, renders any totals of little value for comparison, since failure at one particular period may suffice to produce severe distress. The local officers estimate the probable remissions at Rs. 1,24,33,758, but the Board of Revenue reduce this amount to about a crore of rupees, and express their belief that even less than this may eventually be remitted. Among the cattle and agricultural stock, the mortality has already been very heavy, especially in Nellore, Cuddapah, and Kurnool, but such relief as was attainable by digging and improving wells has been freely resorted to, and it is believed that recent showers have in many places freshened the pastures and checked the further severe loss which was apprehended. The water supply has not, on the whole, proved so deficient as was anticipated.

4. The extent of local stocks must always be greatly a matter of conjecture, but it seems probable that in all districts which had already suffered from preceding bad seasons it was not considerable, and that in others it was reduced at an early stage by the temptation of higher prices elsewhere. Ample evidence is, however, afforded by the reports to show that the advantages possessed by the Madras Presidency in railway and road communications, and in an active and intelligent body of merchants, rendered superfluous and prejudicial all attempts on the part of Government at interference with the grain trade. In connexion with this subject we would invite attention to a minute by Sir Richard Temple, dated the 28th ultimo, and its accompanying memoranda and notes by Captain Bisset, which we forward herewith. These papers show that importation by sea of food grains in response to the demand occasioned by impending famine were considerable as early as August, September, and October, during which months they reached 44,000 tons. The imports subsequently rose largely, and culminated in January, since which date they have been gradually declining. The total imported by all routes between the beginning of August and the end of March amounted to 535,000 tons. The decline in imports which has just been alluded to is probably attributable to several causes combined. The various railway companies appear to have made creditable exertions to grapple with the vast access of traffic thrown upon them, and Captain Bisset states in his memorandum of the 25th ultimo, that there is now train-room for more waggons from the north into the ceded districts. At the same time there appears to be little room for doubt that the traffic on our great railways is more than can be dealt with by existing means and appliances, and that there is no sufficient reserve of rolling-stock to meet any sudden or unusual increase. The difficulties which have occurred between the East Indian and Great Indian Peninsula Railways with reference to the accumulations of grain at various stations, are illustrated by a correspondence with the Government of India in the Public Works Department, of which copies† are enclosed.

† Nos. 194,
211, 250.

5. In continuation of our notice of the Madras returns, we may remark that owners of large zemindari estates are not a very numerous or influential class in that presidency, and that little assistance appears to have been obtainable from them. The emigration has on the whole been quite insignificant, and amounts to little more than a somewhat larger resort than usual to the ordinary labour outlets of Ceylon and the Nilgiri hills. Regarding the estimates of the local officers of the numbers who were likely to be on relief works and in receipt of charitable relief on the 1st of March, 1st of May, and 1st of July, little more need now be said than that at the close of the year, when 1,030,592 persons were employed, there appeared to be every prospect of their being verified, but that the introduction of a more stringent and discriminating system than then prevailed has led to a divergence between the estimates and the actuals even more remarkable than in the case of Bombay.

6. With reference to the differences of opinion which have arisen as to the sufficiency of a 1 lb. ration, we enclose an able and interesting paper by Dr. Lyon, the Chemical Analyser to the Government of Bombay, based upon actual experience in the jails of the presidency town. The Government of Bombay remark that "the calculations by Dr. Lyon, which are deduced from actual experience, and are not purely theoretical, seem to show that a ration based on 1 lb. of grain is sufficient for the sustenance of persons not performing severe labour."

* Nos. 249,
254.

7. We enclose copies of letters* which we have addressed to the Madras Government, in accordance with the intention expressed in paragraph 3 of our Despatch of the 3rd instant, regarding the larger utilisation of the Public Works Department in superintending relief works, and the gradual abolition of the larger relief camps. On

the former subject we have pointed out that there is probably some misapprehension as to the meaning of the term "large works." The Madras Government appear to understand it only in the sense of undertakings of the first magnitude, such as the East Coast Canal, and in this sense there may be a difficulty, arising from paucity of such works, in extensively employing the Public Works Department. But Sir Richard Temple employs the term, as the Bombay Government do, to denote works on which from 1,200 to 1,500 labourers and upwards are engaged, and it is on such works that the supervision of the Public Works Department has in the Bombay Presidency been found so highly beneficial. The proceedings of the Madras Board of Revenue of the 20th ultimo show that 66 per cent. of the relief labourers in Madras are employed upon such works, and that the average per work is 4,591. We observe from the Despatch of the Madras Government to Your Lordship, No. 34 of the 5th instant, that they have recently stated in detail their reasons for not having yet adopted the course he advocates and for believing that course to be unadvisable, but as their proceedings on the subject have not yet reached us, we will, on the present occasion, only express our hope that the explanation which has been suggested, and the experience of the sister presidency, will lead them to an early change of policy in this respect. Upon Sir Richard Temple's suggestion for the gradual abolition of large relief camps we have invited the opinion of the Government of Madras, pointing out the connexion of the subject with the improvement of house-to-house visitation and the relief of civil officers by means of the Public Works Department.

8. We have to mention with deep regret the deaths of Messrs. Cotton, Caldwell, and Wainwright of the Bengal Department of Public Works, in the energetic and efficient discharge of their duties in connexion with relief works in the Cuddapah and Salem districts, to which they had been deputed. Two of them have left widows and children, for whom passages to their respective homes have been provided by the Madras Government.

9. With reference to our telegram to Your Lordship of the 12th instant, and to paragraphs 7 and 9 of the Despatches of the Madras Government to Your Lordship of the 7th and 14th ultimo, regarding the deputation of Dr. Townsend, we enclose copies of a letter which we have received from the Secretary to Sir R. Temple, and of one which we have addressed to the Madras Government. As Dr. Townsend was not sent on an independent mission, but merely placed temporarily under the orders of Sir R. Temple to conduct certain inquiries in the Madras and Bombay Presidencies, no intimation on the subject to either Government was considered necessary.

Nos. 223,
227, 253.

10. We have lately received what are technically known as the "approximate actuals" of the accounts of the Madras and Bombay Presidencies. A comparison with the regular estimate gives the following results. In Madras the collections of land revenue and stamps are Rs. 20,76,000 worse, and those of excise Rs. 1,29,000 better, while famine relief expenditure is Rs. 29,97,000 worse, thus giving a net loss compared with the regular estimate of Rs. 49,44,000. This result was unexpected, considering the great decrease in relief labourers which took place, and we have requested the Madras Government to afford a full explanation of the causes to which it is attributable. In Bombay, on the other hand, we are glad to be able to state that the revenue collections have been Rs. 9,53,000 more, and the famine relief expenditure Rs. 12,77,000 less than the "regular estimate," thus giving a total improvement of Rs. 22,30,000.

11. According to the latest returns which we have received, the numbers in receipt of relief were as follows :—

In Madras	-	-	-	{	670,851 on relief works.
				{	328,732 charitably relieved.
In Bombay	-	-	-	{	296,094 on relief works.
				{	92,153 charitably relieved.
In Mysore	-	-	-	{	63,253 on relief works.
				{	87,693 charitably relieved.

There have thus been increases in Bombay and Mysore under both heads during the week, which amount to 13,037 and 10,217 respectively, while in Madras the reduction of 29,923 on relief works is only apparent, being due to incomplete returns, and there has been an increase of 43,749 in the numbers charitably relieved. We regret to observe the continued increase in the numbers receiving charitable relief in Mysore, which now considerably exceed those of relief labourers, and shall address the Chief Commissioner regarding the very severe distress which the fact betokens.

12. The prospects of the season in Madras appear so far to fulfil what might be deemed reasonable expectations, and the rainfall, though somewhat fitful, is on the whole

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up to the average. Regarding the condition of the Bombay Presidency, Sir Richard Temple telegraphed as follows on the 15th instant:—

“ Good rain fallen Dharwar, Belgaum, Kaládgi; showers elsewhere. Onica growing crops sown considerable breadth Dharwar, Belgaum. People southern districts good spirits, situation central eastern districts more stringent increase this week. On works 33,000 caused by improved working village inspection, which sends people to work who would otherwise need charitable relief or suffer great distress at home. Increase of people, charitable relief 3,000, numbers on works will probably continue increasing till monsoon. Concentration on large works whereon five-sixths of total number are employed. Condition people continues good, except some cases of recent applicants for relief and their young children, which were bad. These cases specially treated. Condition cattle, central and eastern districts, still causing anxiety, but cannot be accurately ascertained till animals reassembled in villages; believed that enough will survive for agricultural purposes. Grain trade active, prices slightly rising, exportation Bombay to Western Coast ports trade endeavouring to throw in supplies before ports close. Position hopeful, but vigilant activity needed. Arrangements working well.”

We have the honour to be, &c.

(Signed) LYTTON.
A. J. ARBUTHNOT.
J. STRACHEY.

No. 257.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

Revenue, No. 44.

India Office, London, 17th May 1877.

Para. 1. I have had under my consideration two Despatches from the Government of Madras, dated respectively the 7th and 14th of April, Nos. 25 and 28 of 1877, both of which contain remarks on the deputation of Dr. Townsend, your Sanitary Commissioner to the distressed districts in the Madras Presidency.

2. I do not propose to make any further remarks on the vexed question relative to the sufficiency of the scale of rations allowed to labourers on relief works, especially as Sir R. Temple has now returned to Bombay and assumed charge of the Government of that presidency.

I have the honour to be, &c.

(Signed) SALISBURY.

No. 258.

Telegram, dated 21st May 1877.

From GOVERNOR, Madras, to VICEROY, Simla.

Lowest scale
of wages in-
sufficient.

Yours of 12th* received. Lowest scale of wages to workers of one pound grain with half anna is insufficient. Much influenced by entire want of vegetables, and increased heat. Prices slowly rising, recent rain general over eastern plains, but heavy only near Madras. Damages immaterial. Water-supply good for some time. Some irrigation tanks fairly supplied. Cultivation being commenced; if this checks upward prices, matters will go well; if prices continue rising, distress and number must increase. Hope to visit southern districts next week.

* *Vide Pros.*, May 1877, Nos. 49 to 59.

No. 259.

Telegram, dated 23rd May 1877.

From GOVERNOR, Madras, to VICEROY, Simla.

No. 262.

Lowest scale
of wages in-
sufficient.

Obliged to raise lowest scale to same as first, to one pound and one anna for adult men performing task equal not less than half ordinary task. Full particulars will be sent officially. Some officers of experience had found it necessary to raise without waiting sanction. Will write fully.

No. 260.

No. 262.

Telegram, dated 27th May 1877.

From REVENUE ADDITIONAL SECRETARY, Madras, to REVENUE ADDITIONAL SECRETARY, Simla.

Kurnool Collector telegraphs, message begins : Grand fresh in Toombudra, upwards of four feet of water passing down canal.

No. 261.

No. 262.

No. 480.

From the ADDITIONAL SECRETARY TO THE GOVERNMENT OF INDIA to the SECRETARY TO THE GOVERNMENT OF BOMBAY, Public Works Department.

Simla, 28th May 1877.

I am directed to acknowledge the receipt of your letters quoted in the margin, for-
 No. 20E.—85 of January 17th. warding, as requested in paragraph 6 of my letter of
 No. 177E.—627 of March 20th November 30th, 1876, information regarding the condition
 of Native States comprised in the portion of the Bombay Presidency affected by
 famine.

The Native
 States in
 Bombay
 Presidency
 affected by
 famine.

2. This information being in some cases imperfect as regards area, population, revenue, or proportion of kharif and rabi cultivation, it has not been found possible to compile it into a definite review such as that regarding the British districts which was issued in the Resolution of the Government of India, No. 212, dated February 21st. In view, however, of the difficulty which has no doubt been experienced in obtaining reliable statistics regarding Native States, and of the general view of their condition which has been afforded by the weekly statements, and by the correspondence which has passed in certain cases, his Excellency the Governor-General in Council considers it unnecessary to trouble the Government of Bombay with further calls upon the subject.

3. From the various sources of information which are available, it would appear that the States which have been affected by famine, or the condition of which, in view of their probably becoming so, has been the subject of careful inquiry, comprise, roughly speaking, an area of 9,708 square miles and a population of 2,073,066, and that the portion actually suffering from scarcity is at present estimated by the Bombay Government at 4,804, square miles, with a population of 847,848 persons. The following table shows some of the more prominent points regarding each State :—

Names of States.	Approximate Gross Revenue.	AREA.		POPULATION.		BY LATEST ACCOUNTS.		
		Total.	Affected.	Total.	Affected.	Numbers on Works.	Actual Expendi- ture.	Price of Staple Grain in Lbs. per Rupee.
Alakote—under Sho- lapur.	Rs. 2,28,500	498	373	78,222	58,000	3,130	Rs. 41,389	18½
Jinjeera—under Colaba	3,20,000	324	—	72,000	—	—	—	—
Satara Jagirdars, viz. :—								
Jath - -	79,857	884	879	64,000	63,628	2,261	26,071	14½
Phaltan - -	1,20,175	397	397	59,124	59,124	657	8,440	?
Pant Pratinidhi - -	1,24,163	213	138	68,335	44,594	727	9,061	15
Pant Sachiv - -	4,92,775	500	—	111,689	—	—	—	—
Kolhapur State and its feudatories, viz., Bawra, Inchalkaranji, Kagal, and Vishalgadh - -	24,29,000	3,184	2,999	802,691	620,482	21,985	3,73,020	15½
Southern Mahratta States, viz., Miraj (two), Sangli, Kurandwar (two), Jamkhandi, Mudhol, Ramdurg - -	14,90,000	2,734		610,434				
Savanur—under Dhar- war.	8,16,71	70	18	15,757	2,020	324	1,514	16½
Sawant Wari - -	2,91,640	904	—	190,814	—	41	1,084	25
	56,57,781	9,708	4,804	2,073,066	847,848	—	—	—

The Native States in Bombay Presidency affected by famine.

4. As regards failure of crops the case of each State appears to be somewhat as follows :—

Akalkote.—The failure has been about five-sixths of an average crop, or nearly as bad as in the adjoining district of Sholapur.

Jinjeera.—Half the rice crop and three-fourths of the warkas crop have failed, and heavy remissions have been given, but the proximity to Bombay has prevented scarcity of grain.

Jath.—The failure has been almost complete, and the distress similar to that in the adjoining Sholapur and Kaladgi districts.

Phaltan.—Failure nearly the same as in Jath.

Pant Pratinidhi.—A portion of the State is alone much affected, but the failure there has exceeded half the crop.

Pant Sachiv.—This State, owing to its proximity to the Ghâts, has almost entirely escaped loss.

Kolhapur.—The eastern taluks have alone suffered, and that not very severely. The four feudatories likewise have done fairly. On the whole, it would seem that the average loss in affected parts does not exceed half the crop; about two-thirds of the land revenue will be recovered.

Sangli has lost nearly the whole of both *kharif* and *rabi* crops.

Miraj.—Both the senior and junior branches of this State have saved about one-fifth of their crop, on an average, but in some parts the failure has been complete.

Koorundwar.—The senior branch has got about a half crop, and the junior branch considerably more, so the distress is very slight.

Jamkhandi.—The failure may be said to be complete.

Mudhol.—About one-fifth of the crop has alone been saved.

Ramdurg.—Nearly the whole *kharif* crop has been lost, but the *rabi* has yielded about one-third of an average.

Savanur.—The failure has been slight, except in a few villages.

Sawant Wari.—The yield has been from one half to three-fourths throughout, so that the distress, if any, is very slight.

5. The circumstance that Akalkote, Jath, Kolhapur, with all its four feudatories, Miraj (senior), Sangli, Mudhol, and Sawant Wari, are all under British administration, in consequence of the minority of their Chiefs, has tended materially to strengthen the hands of the Government in extending to the suffering people of the territories under their political jurisdiction the measures of relief applied to British subjects. The same fact has tended to render available ample funds for the purpose, the accumulated revenues of Kolhapur and its feudatories, for instance, aggregating 27½ lakhs of rupees, and those of Miraj (senior) and Mudhol about 15 lakhs more.

6. The organisation of relief works has been found necessary in all the States excepting Jinjeera, though in some the works are only of a trifling nature. The necessity of every State providing for its own distressed population was brought prominently to the attention of the Bombay Government by the Government of India (No. 1T., dated December 20th, 1876), and the principle was approved of by the Secretary of State in his Despatch No. 21 of the 28th February last. His Excellency the Governor-General in Council fully concurs in the efforts in this direction which have

No. 276E.—892 of 19th April.

No. 317E.—1,021 of 2nd May.

been made by the Bombay Government in its orders quoted marginally, and has every confidence that at the present time, when the famine is pressing with daily increasing stringency, no means will be spared to ensure that the relief works in Native States, and the house-to-house visitation, shall be equal to the occasion.

7. With reference to the important question of the freedom of the grain trade, his Excellency the Governor-General in Council has only to repeat the full concurrence, expressed in my letter No. 272 of March 7th, in the efforts of the Government of Bombay to suppress the tendency to interference which has been somewhat marked in certain cases, especially in the recent one of Sawant Wari.

8. In conclusion, I am desirous to express the sympathy of his Excellency the Governor-General in Council with the political officers of Bombay in the arduous and delicate task which has fallen to them, and his appreciation of the measure of success which so far, under the guidance of the Local Government, appears to have attended their labours.

No. 262.

No. 25 of 1877.

From the GOVERNMENT OF INDIA, Department of Revenue, Agriculture, and Commerce,
to the SECRETARY OF STATE FOR INDIA.

Simla, the 4th June 1877.

We enclose a minute by Sir Richard Temple, dated April the 14th,* reporting generally on his late mission to the distressed districts of the Madras Presidency. Regarding the operations of the mission in the presidency of Bombay, it has seemed to him unnecessary, under existing circumstances, to add anything to his minute of 24th March, which was submitted to your Lordship with our Despatch of the 12th April, No. 20.

* No. 214.

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2. This interesting and important State paper is divided into the following parts:—
- 1st. The extent of the drought, the failure of the harvests, and the effect of these disasters upon the fortunes and the physical condition of the people.
 - 2nd. The measures adopted by Government to help the people in meeting or bearing up against these misfortunes.
 - 3rd. The several points towards which the proceedings of the mission have been principally directed.
 - 4th. The state of affairs at the present time of writing.
 - 5th. The lessons to be deduced from all the circumstances which have yet occurred in connexion with these affairs.

We propose to recapitulate some of the more leading points in each part.

3. The drought of 1876, Sir Richard Temple points out, affected the whole of the Madras Presidency except the littoral tract south of Orissa and the deltas of the Godavery and the Kistna. The rainfall of the year ranged from three to twenty inches, and in large tracts from only to six to ten inches, whereas the ordinary average ranged from twenty to forty inches. The misfortune threatened first in July, and became more pronounced from month to month, till it culminated in November. Its severity was aggravated by the fact that the Deccan districts of Bombay, the greater part of Mysore, and a part of the Nizam's dominions were similarly affected. Ten Madras districts, with an area of 74,000 square miles, were thus more or less seriously injured, and of their population of sixteen millions, eleven were distressed in a greater and five in a lesser degree.

4. In the distressed tracts there are two harvests in the year, one depending on the summer rains and the other on the autumnal. Rice and various sorts of millet are the principal crops. The cultivation is to a small degree "wet," that is, dependent on tank irrigation, but principally "dry," or watered by rainfall, with some aid from wells. In the "wet" lands the failure was worst, the tanks being transformed into dusty hollows. The "dry" lands suffered to a somewhat less extent, and some of the more valuable crops were in part preserved, as the wells more or less held out, and the cultivators struggled bravely for water by digging pits in river beds, by deepening existing wells, and by sinking new ones. The failure varied in extent in different districts. Bellary and Kurnool saved only one-sixteenth of an average crop, Cuddapah and Chingleput three-sixteenths, Nellore, North Arcot, Coimbatore, and Madura one-quarter, Salem one-third, and Tinnevely six-sixteenths. The difficulty of dealing with famine is aggravated if the population is dense, but in Madras the most distressed districts are fortunately the more thinly peopled. Some districts, moreover, were at the disadvantage that the previous year had been an unpropitious one, and Bellary had suffered from two previous bad seasons. On the other hand, splendid harvests had been reaped in Burma, Guzerat, the Central Provinces, Malwa, and Northern India, as also in Bengal, Behar, and Orissa.

5. As regards the effect of the drought upon the people, while there was ample ground for anxiety and for exertion, there were many circumstances justifying hopes of a not unsuccessful issue. Grain rose, indeed, to 12 and 14 lbs. per rupee, but the sea-board afforded easy communication on both east and west with grain-holding provinces, railways and excellent roads traversed in all directions the distressed tracts, and enterprising traders, European as well as Native, were at hand to push their opportunities. As to the people themselves, while there were low-caste and wandering classes, and humble artizans, whose condition inspired alarm, there was a mass of well-to-do peasant proprietors, strong to bear passing adversity and often neither unable nor unwilling to aid the farm labourers dependent on them, and, finally, there stood behind all the British Government, with a will to save, and all the strength which money, ability, and devotion could contribute to that end.

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6. The measures adopted by the Madras Government were at the outset confined to the opening of relief works on a small scale, but when the failure of the autumn rains was no longer doubtful, a great expansion took place. Some large works were proposed, and the East Coast Canal was sanctioned. But in the main the course of opening small works, within easy reach of all who might need relief, was adopted with the approval of the Government of India, which by the end of October was fully alive to the magnitude of the impending calamity, and seeking detailed information as a secure basis of action. These works were almost entirely under the guidance of the civil officers, the Public Works Department being mainly utilised in advising, designing, and measuring up, but not being in actual command of works or of the tasking of labour. The relief wages were at first fixed at $2\frac{1}{2}$ annas for a man, and in some places even 3 annas were paid, but soon after the end of the year the introduction of a 2-anna rate was enjoined, together with a fixed task. The latter, however, rarely became effectual, as no test of admission was prescribed, nor was any discretion to reject applicants vested in the local officers. It was assumed that none would come on the works who did not need relief, and it was, apparently, also considered to be the duty of Government to alleviate all suffering, not merely to prevent death from starvation. The local charities and the habits of the people having contributed to a vast influx of starving wanderers into the city of Madras, relief camps on a large scale were organised for them, and the system was ordered to be adopted near Arcot, Vellore, and elsewhere.

7. During the months of August, September, and October the importations of grain into the presidency by sea amounted to 43,637 tons, and 20,446 tons were carried by rail from Madras into the distressed tracts. The grain trade, though thus not inactive, was in some places sensitive and excitable, grain riots occurred, and the influx into Madras above referred to followed. These circumstances caused anxiety to the Madras Government, who purchased from without the presidency 30,000 tons of Government grain as a reserve, to be sent to any localities where a dangerous deficiency of grain arose. Payment of relief wages in grain being also contemplated, about 13,000 tons more were purchased for this purpose. With the view of distributing the grain reserve in a way to control the markets favourably, a transport agency was established, with head quarters at Bellary, and efficiently organised so as to be capable of expansion as might be required.

8. The relief provided by the measures above described was largely resorted to—

“The progress of the number of relief labourers, men, women, and children, up to the first week in January when the highest number was reached, may be thus seen:—

	Number of Persons.
1st November -	160,000
1st December -	310,000
15th ditto -	656,000
31st ditto -	982,000
7th January -	1,066,000
14th ditto -	1,055,000

and the last-named number was increased to 1,165,000 by the addition of 110,000 persons on gratuitous relief,”

which was dispensed from centres established throughout the districts, and largely supplemented by private charity. The expenditure up to the end of December 1876 was—

	£
“On relief -	372,500
On purchase of grain -	302,400
Total -	674,900

“There were other items, such as transport agency and local purchases of grain, which brought up the total to nearly three-quarters of a million sterling.

“The members of the Revenue Board were deputed to visit the most distressed districts and to make reports to Government of all that they ascertained.

“In every part of the distressed districts the civil officers of all grades exerted themselves with the utmost zeal, devotion, and humanity, and in a manner entirely worthy of the urgency and magnitude of the occasion.”

9. Such was, very briefly described, the position of affairs when Sir Richard Temple entered the Madras Presidency on January 14th. He thus summarises the instructions he had received verbally before starting, and which reached him formally on the 23rd of that month—

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“Every effort is to be made for the prevention of deaths by famine.

“Severe economy in relief should be practised. Indiscriminate charity on the part of individuals is admitted to be bad, but on the part of a Government is worse. A Government has no better right in a time of scarcity than at other times to attempt the task of preventing all suffering, and of giving general relief to the poorer classes of the community.

“The numbers on relief works are so great that there is reason to fear that many persons must be employed who without such relief could sustain themselves for a time at least.

“The collection of such numbers should be restricted on works where labour is not exacted, where supervision is wanting, and where people can obtain, for the asking and in return for next to no work at all, wages in money or in grain.

“No time should be lost in giving to the people, to the greatest extent practicable, the means of employment on large public works, which need not always be in the distressed districts or near the homes of the people.

“The Government may be driven to set up petty relief works near the homes of the people, but not until distress becomes extreme, or a state of famine has been reached.

“There is great advantage in paying relief labour in money (not in grain) wherever and so long as this mode of payment is practicable. But if money payment is not practicable, there is no more objection to Government purchasing grain for payment than there is to its making purchases through the Commissariat for the troops.

“There is to be no interference of any kind on the part of Government with the object of reducing the price of food.

“Inquiry should be made as to how far private trade, if unfettered, can supply the wants of the country.

“In certain localities remote from railways and large markets which private trade is unable to reach, it may become necessary for Government to intervene.

“The transport of grain by the trade, by railways, by roads in the interior, and by the seaports, should be carefully observed.

“A question shortly arose as to what degree of distress was to be prevented by Government. I understood from the first that practically there would be two principal degrees of distress. Firstly, there might be distress which, however sore and lamentable, can yet be borne without physical health being impaired, or bodily power being disabled, or life being imperilled; and this the Government could not undertake to prevent or alleviate. Secondly, there might be distress which, increasing slowly perhaps but surely, must lead to extremity which would sooner or later end in death;—and this the Government would, to the utmost of its means and ability, prevent. It was necessary, by the best diagnosis which could be made, to discriminate between the one kind of distress and the other; and if there should be a doubt whether any person or persons come within the first or the second category, then to give the people the benefit of that doubt. These principles were fully borne in mind in the discussions and conferences of the third week of January in Bellary, Kurnool, and Cuddapah. Shortly afterwards similar principles were enunciated by the Government of India in reply to some references which had been made.”

The application of these principles to the actual state of affairs was the practical question presented to the mission.

10. The first point was the dealings of the Government regarding grain. Finding the local markets everywhere well supplied, the railway carrying to the utmost of its power, the merchants confident in their own powers of importation and distribution, but apprehensive of Government interference, Sir Richard Temple represented this to the Madras Government. The purchase of grain and the payment of grain wages soon afterwards ceased, and the operations of the transport agency were confined within the narrowest practicable limits.

11. Another important question was that of the accumulations of grain existing at various stations along the railways. The deficiency of engine power was found to be the principal cause of the “blocks,” and it was supplemented by engines obtained from other parts of India. The doubling of the line from near Madras to Arcot was recommended and put in hand, and facilities for importation for Mysore, via Negapatam

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were afforded by the Madras Government. By these measures, and the unremitting and praiseworthy exertions of the Traffic Departments of the several railways, aided by the suggestions of an Engineer officer specially deputed to watch over the matter, the pressure was greatly relieved.

12. The character of the relief afforded was also one of the earliest matters for the consideration of the mission. Of this, Sir Richard Temple observes—

“There could be no doubt that, on the whole, the grave consequences with which the people had been threatened by the drought were being successfully averted. In the interior of the presidency, and especially in the most distressed districts above the Ghât mountains, there was no information of any mortality or even of any deaths of individuals from starvation. There was indeed information to the effect that nothing of the kind had occurred or was likely to occur. There was no sign of distress. Whatever distress had been threatened was being thoroughly relieved. Irrespective then of cost, present or prospective—irrespective also of any possible demoralising influences on the people—there was no doubt that the famine was being completely subdued.”

But the question remained whether the relief was not more than sufficient, and consequently unduly attractive to the people and unduly burdensome to the finances of the State. This question Sir Richard answered in the affirmative. It appeared that the proportions of the population on relief works and gratuitously relieved in the Bellary, Kurnool, and Kuddapah districts were 27, 35, and 16 per cent. respectively, while in the Bombay Presidency, in the Sholapur and Kaladgi districts, and part of Poona, which were similarly drought-stricken, the proportions were only 13, 3, and 11 per cent. In part this seemed attributable to the great size of the jurisdictions of the Collectors, and to the want of superior controlling authority on the spot. Sir Richard remarks as follows :—

“It has been already stated that on behalf of the Madras Government, one member of the Board of Revenue after another had visited temporarily the most distressed districts, had consulted with the local officers, and had made reports to the Government which had been very useful so far as they went. But these high officials did not always possess authority to give orders or instructions on the spot. Whatever authority they indirectly exercised was in its nature undefined, and was insufficient for conducting urgent and critical affairs. Each of them stayed but for a short time and then returned to Madras. There was no superior authority resident in the scene of trouble, vested with power, and imbued with that sense of personal responsibility which conduces to forceful and thoughtful administration. Consequently there was no policy laid down in adaptation to local circumstances. The District Collectors had not enough of guidance under circumstances transcending their ordinary experience. And junior Civil officers in out-stations and in remote subdivisions were sometimes obliged to confront extraordinary difficulties, to incur large expense, and to commit the Government to important decisions, without having received any definite instructions.”

Besides this, other causes for the large numbers relieved in the ceded districts and Kurnool were found to be at work. They were—

- “Offering of work close to the homes of the people.
- “Rendering the work light and easy.
- “Making the wages worth having irrespective of bare subsistence.
- “Admitting all comers without any question as to whether they could sustain themselves for a time.
- “Allowing all applications for employment without exception.”

“The wages were, at the outset, supposed to be low relatively to the dear prices of food. But they were not really low, when every member of the family was able to earn them close at home. The monthly earnings of a poor family, at this time on the relief works, was equal to the salary in ordinary times of the lowest paid classes who can read and write.”

13. The enforcement of the orders already given to the Madras Government for the introduction of task-work, and the strengthening of the local establishments by officers, Civil and Military, from whatever locality obtainable, were among the earliest points urged upon the authorities. Sir Richard also on the 21st January laid before the Madras Government proposals for—

- “Stopping all fresh admissions to relief works in Bellary, Kurnool, and Cuddapah, save under an order from some responsible official.

"Examining every gang person by person with the view of discharging for the present every one not in absolute need of State relief."

"Reducing the relief wage for men from 2 annas to $1\frac{1}{2}$ annas per diem, the wage for women and children to be adjusted accordingly."

"It was shown that at the price of common grain then prevailing and likely to prevail (namely, one rupee for eight seers or 16 lbs.) during the time of distress, the $1\frac{1}{2}$ annas rate would enable a man to buy 1 lb. of grain per diem, and to have a margin for buying vegetables and condiments. Besides the financial saving, which would be considerable, the foregoing narrative will have shown the importance of lowering the relief wage to the standard of subsistence, of sustaining life in ordinary health, and nothing more."

These views were accepted by the Madras Government on the 31st January, but with some modification—

"Instead of the wage of $1\frac{1}{2}$ annas per diem as proposed by me, the Madras Government ordered that the wage should be fixed for all relief labourers, not under professional supervision, at an amount representing the price of 1 lb. a day of grain plus $\frac{1}{2}$ anna for vegetables and condiments. This rate was as economical as mine, but it had this disadvantage that doubts would arise in different districts as to what kind of grain was meant, that time would be lost in discussion, and that, in the midst of doubts, the reduction of wage would in some localities fail to take effect. All this actually happened. The reduction did not take effect till nearly the end of February, and in many places it settled itself into the $1\frac{1}{2}$ annas rate,—the very rate first recommended."

"For those relief labourers who were employed by the Public Works Department under the departmental rules of work, or who, though supervised by other agency, might be working up to the departmental standard, a rate of 2 annas per diem was allowed."

14. Another important point was—

"To provide for the inspection of the poorer classes in the distressed districts from village to village, from house to house, in the highways and byeways, in every place where men either congregate or wander."

On this Sir Richard Temple reports as follows:—

"The orders of the Madras Government were that relief camps for the reception of destitute persons should be formed at all the principal places, and that the residuum of such persons should be relieved by the village headmen under the supervision of the district authorities. These orders were doubtless excellent so far as they went. But being general in their terms they needed to be followed up with more specific directions. On the 16th January I caused a detailed memorandum to be drawn up of the manner in which the Kurnool district might be divided into circles and sub-circles for the inspection of every house in every village for the purpose of searching out cases of destitution; which memorandum was immediately transmitted to the Madras Government. On the 19th January I drew attention to the importance of impressing upon the headmen of every village their responsibility for bringing before the nearest authority every case of dangerous distress. On the 8th February I formally represented to the Madras Government the general importance of the subject, observing that, however comprehensive the relief measures might be, still experience showed that individuals or families might be suffering in silence, and might compose themselves for death without complaining."

15. After submitting these various matters for the consideration of the Government, Sir Richard Temple made a series of visits to various parts. He observes:—

"My next care was to visit rapidly the distressed districts below the Ghât mountains. As already seen, some parts of those districts were much distressed. And if the ideas which had for a time prevailed in the districts above the Ghât mountains (Bellary, Kurnool, Cuddapah) should take possession of the people below them, the crowding of large numbers on relief works might become very embarrassing. I therefore passed through parts of Chingleput, North Arcot, Salem, Coimbatore, Trichinopoly, Madura, and Tinnevely. This visit was decidedly re-assuring. The failure of the autumn and winter harvests had been less; the promise of the spring harvest was better; the resources of the people were in several respects greater. Nothing like indiscriminate relief had prevailed; the local officers had been cautious and thrifty; the people had been taught the lesson of self-control under threatening circumstances. The recipients of relief were comparatively few, and their number did not seem likely to increase largely."

After the tour above noticed and a brief visit to Mysore, Sir Richard returned to Bellary, Kurnool, and Cuddapah to watch the effect of the new orders, and spent nearly a month there. He describes in the following graphic terms the change he found going on—

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"The local officers, despite much difficulty, exerted themselves most loyally to restrict relief to those who absolutely needed it; to reject those who were making a convenience of the State bounty; while they extended discriminating charity to all cases of real misery. Many persons were discharged as being manifestly without claim to support from Government. This doubtless discouraged applicants who knew themselves unworthy. To such persons the reduction of the relief wage served as a further discouragement. This tended to keep the numbers down. As might be expected, the increased supervision brought to light the various sorts of frauds, malpractices, and false returns, which are sure to be found on these occasions everywhere. The returning of persons who never existed is expressively termed in these districts, the 'counting of crows in the air and entering them in a roll.' Sometimes outbreaks of small-pox or cholera or other sickness, sometimes also holidays and festivals, would cause gangs to break up, and not to re-assemble. Again, the relief works were systematically re-arranged in order to take the relief labourers to some reasonable distance from their homes, and to make the tasks in some degree irksome—so as to apply some test and trial of the reality of their need. The manner in which the gangs thinned their ranks—when required to move away, to perform a day's march, to render a fixed tale of work, to bivouac or encamp in the open fields—was quite remarkable. Then it was that tens of thousands proved by their own behaviour that they had been taking State wages for gain or convenience, and not for the support of life. More than this, many gangs, on receiving orders which would have been obeyed unhesitatingly by persons really in need, struck work, hoping to make terms with the authorities. Finding themselves unable to dictate their own terms, some would come back after remaining for a while on strike; but many stayed away altogether. Instance after instance occurred of gangs, some thousands strong, disappearing from muster on being told that the road running through the middle of their villages, to which they had sauntered leisurely day by day for weeks past, was now finished and that they would be assembled at another road one day or two days' march off. Other gangs equally large, on being set to do an augmented task, would cease working and run off shouting that this new burden was unjust, and that Government, having let them become accustomed to easy work, should allow them to continue in ease to the end. The effect of all this was to bring down the numbers week by week. In Bellary, Kurnool, and Cuddapah, the highest total in January of persons on relief works amounted to 950,000. It fell to 540,000 by the end of February, and to 490,000 by the middle of March. And the decrease is the more remarkable, inasmuch as the season was advancing during which the distress was expected."

Inquiries showed that in some cases the labourers were able to hoard a small portion of their wages, that in others only the women of a family were on the works, the men following other occupations of their own. The robberies and thefts which had been rife in November and December had for the most part ceased. Of village relief Sir Richard states—

"It was found that much was being done in this direction; that the village headmen had received strict injunctions to inspect, report, or relieve; that they had in many cases received small advances of funds, so that they would be without excuse for failing to afford relief in emergency; that circles had been formed, each containing a few villages only, there being a special relief centre in the midst of each circle; that there was a larger relief centre at the head-quarters of each subdivision comprising a cluster of circles. But still here and there among the villages, and sometimes among the gangs of sturdy and vigorous relief labourers, I found weakly or wretched individuals. And sometimes inquiry into these miserable cases showed that the poor people were sharing their wages with infirm people at home. Such infirm persons ought, of course, to have been sought out and brought forward for succour under the system of village inspection and relief. These and other circumstances induced me again to address the Madras Government, reiterating the recommendation made on the 8th of February, and suggesting the issue of more definite and detailed orders, compelling all village headmen to pay thorough attention to this part of their duties, and ensuring an effective watch over the headmen on the part of relief officers and officials of all grades."

In the course of the same period the necessity for a superior officer in the ceded districts, to direct and control all the relief operations, was formally represented. The commencement of the earth-work of the projected railways from Bellary towards Dharwar, and from Chingleput to Conjeveram, was also recommended and sanctioned by the Government of India. A visit to Nellore resulting in orders for the transfer of large bodies of labourers from the village works to the East Coast Canal completed the inspection of the distressed districts.

16. The probable cost of the famine was naturally the subject of careful calculation. In December the Madras Board of Revenue had made a rough estimate showing an expenditure of nearly $3\frac{1}{2}$ millions sterling, exclusive of losses of revenue. On the data furnished by the Collectors, which appeared high, but which were adopted in order that the Government of India might be prepared for all eventualities, a fresh estimate of 2,920,000*l.* was submitted on February 5th, being about half a million below that above referred to. On the 4th of March a third estimate was formed at the desire of the Government of India, which, owing to the extensive fall in the numbers relieved, amounted to only 2,176,000*l.* This, however, was expressly said to be contingent on the maintenance of all the existing economical checks, and on the propitiousness of the coming summer rains. The last estimate at the close of the mission was 2,050,000*l.*, exclusive, as before, of loss of revenue.

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17. After a brief visit to Salem and Coimbatore, and an examination of relief camps near Madras, representations were made regarding the insufficient arrangements for separation of castes in relief camps, the provision of light relief work for weavers of fine fabrics, the failure of certain zemindars near Madras to perform their duty towards their tenantry and dependants, and the indiscriminate dispensation of private charity by benevolent Native gentlemen. All these subjects received in consequence suitable attention.

18. Early in March a controversy was commenced by the Sanitary Commissioner of Madras regarding the sufficiency or otherwise of the reduced relief wage. Sir Richard observes :—

“The Sanitary Commissioner of Madras had raised objections to the reduced scale of wages for relief labour, based on theoretical and scientific grounds, and supported by his previous experience of the people in Southern India. It was thought by him and by some others that the wage ought to be raised to the rate at which it had stood in the beginning of January. I, however, represented to the Government of Madras that the reduced wage had not received any proper trial, and that it ought, in justice to the public interest, to be fully tried. This view was accepted. It was at the same time ordered that any person in the relief gangs who might be found in a condition below par should be specially treated, either by extra allowance or by diminution of task.

“It was arranged that, when relief labourers brought to the work children of tender age unfit for labour, such children should receive a special allowance. This concession, on which the Madras Government laid great stress, obviated a risk which might otherwise have been run, when the relief wage was reduced.

“Besides the advantage of economy, which is considerable, there are obvious reasons for keeping the wage down to the lowest rate compatible with the health of the relief labourers. The people are less tempted to resort to relief except under necessity, as they are known to be much influenced by the rise or fall of the relief wage. The margin for illicit practices on the part of ministerial officials is narrowed. If the wage is liberal, a part of it is sure to be absorbed by these officials; if it be just enough and no more, then the labourers cannot afford to give anything to the officials. The question whether the wage representing 1 lb. of grain a day, and half anna for extras, is sufficient, can be decided by experience. There is reason to infer from the rates of wages in ordinary times—not of trained labourers or of persons employed in central places or on special work—but of the labouring poor among the villages, and from the ordinary prices of food grains, that a man of this class can hardly get more than 1 lb. a day besides extras. If that be so, it becomes important to establish a relief wage on this basis. It may be that somewhat more liberal terms have been allowed on former occasions. But that is no reason why these more economical terms should not be now introduced if experience proves them to be feasible. And although some instances to the contrary were adduced, still, at that time, the middle of March, large gangs of labourers in Bellary and Kurnool were known to have been working for some little time on the reduced wage without physical detriment. Opinion at Madras was apparently affected by the wretched condition of the wanderers who strayed into the capital or its suburbs, in quest of food, and who doubtless may need generous sustenance for a time. But these were cases of special distress, and were quite apart from the mass of relief labourers in the interior of the country, who had been employed before they could lapse into wretchedness, and had since been maintained in good case.”

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"On this occasion* I was accompanied by Dr. S. Townsend, the Sanitary Commissioner to the Government of India, whose assistance had been asked for to enable me to judge of the physical condition of the relief labourers, and to estimate under professional advice the objections raised by the Sanitary Commissioner of Madras. After inspecting nearly 40,000 of these people in different parts of the country, Dr. Townsend stated his deliberate opinion that their physical condition was fairly good, and that there were no grounds perceptible for raising the wages. This opinion I duly reported to the Government of Madras.

"The Sanitary Commissioner of Madras has, however, admitted that with the special allowance given to the little children of relief labourers, perhaps also with the allowance of wages on Sundays, the reduced wage is about equal to that which he himself recommended.

"Still in some quarters it seems to be supposed that there is some connection between the mortality among the recipients of gratuitous relief and the reduced relief wages; if persons die at the gratuitous relief camps, or are picked up in a famishing state on the roads or elsewhere, that is imagined by some to be a proof that the relief wages must be too low. But evidently there is no connexion whatever between the two cases. Those who are found starving (with exceptions so rare as to prove the rule) are not, and have never been, relief labourers at all, and have not been earning any wages. Most of them are not accustomed or not able to work; and this is mainly the reason why they have been admitted to gratuitous relief. How, therefore, can the rate of relief wages possibly affect them? Any inference drawn from these conditions would be wholly irrelevant if applied to relief labourers. These poor people have sunk into danger, either because they themselves failed to apply for charitable aid, or because those who ought to have brought them forward for gratuitous relief failed to do so. But that is a matter quite separate from the question of relief wages, which refers to a totally different class of persons.

"Even though the reduced wage may, as now stated by the Sanitary Commissioner of Madras, be much the same as that which he recommends, and may so far have the support of his authority, still its effect ought to be carefully watched; and if any signs of real deterioration in the physique of the relief labourers should hereafter appear, there need not be any difficulty in raising it."

Before quitting this subject we may invite attention to two telegrams from the Madras Government which we enclose, from which it will be seen that on the 23rd instant the "reduced relief wage" was abolished. All labourers on civil works will consequently now receive the rates sanctioned on January 31st for those under Public Works supervision, but with an obligation to perform a task of only 50 per cent., instead of 75 per cent. of an ordinary task. The reasons which have induced the Madras Government to make this change are stated in their Despatch to your Lordship of the 26th ultimo, No. 38. We are not aware on what data it is calculated that the increased cost will be only one lakh and three-quarters per mensem, unless indeed the reduced wage was far less generally adopted than was supposed.

19. Another subject noticed by Sir Richard Temple is that of his recommendations for the suspension of land revenue demands, with a view to collection in future years, instead of absolute remission. He thus states the case:—

"In the Bengal Presidency the theory of the land revenue settlement is that the landholder bears any loss in bad years, for he enjoys all the profits of good harvests or high prices. In years of grievous failure of harvest it is customary to suspend collection of a part of the land revenue until the next good season comes. And in temporarily settled tracts some remission is often granted where all the crops have been lost. The theory of the Madras revenue system is somewhat different. In the districts under regular settlement the rule is, that if the water supply to any "wet" lands (that is, lands irrigated from tanks or rivers) wholly fails, then the land revenue on such lands is remitted in full, but not otherwise. For either it is a part of the implied understanding between Government and the ryot, or else it has been the practice, that water shall be provided to irrigate "wet" lands. On "dry" lands (that is, lands not irrigated at all, or irrigated only from wells) a reduction of 20 per cent. is made on the Government demand to meet vicissitudes of season; and on these lands no remission is granted save under very exceptional circumstances. In the districts not under regular settlement, remission of land revenue is granted on account of partial failure on "wet" lands, and it is also allowed more freely for loss of crop on "dry" lands.

"The present season of scarcity deepening into famine is indeed very exceptional; and the Madras revenue authorities considered that very large remissions of revenue

would be required; while they regarded it as inexpedient to hold in suspense over the ryots any part of the land revenue that could not with fairness be collected this year."

"The Madras land revenue has been moderately assessed, and falls comparatively light on 'dry' lands; and an ordinary ryot might well afford to pay the arrear land revenue of a bad year out of his profits, if the succeeding two years shall be good. The circumstance that lands irrigated from wells are taxed at 'dry' or unirrigated rates of land revenue, greatly strengthens the position of ryots on 'dry' lands; for crops irrigated by wells yield an outturn on which the assessment falls with very light incidence. On the other hand, a considerable portion of the whole land is held by very petty ryots, whose standard of living is low, and who might be unable to pay up the arrears of their land tax in full. I estimated, however, that perhaps two-thirds of the land revenue which could not fairly be collected this year, might be paid by the ryots during the two succeeding years, if the seasons should be propitious. And I recommended that the arrear land revenue of the present year should be kept in suspense, and that no remission should at present be promised on 'dry' lands, in order that the public treasury might have a chance of recovering part of the arrears, if the future seasons shall be favourable. If the people should be found hereafter unable to pay the revenue for this year, which by settlement or other arrangement they had engaged to pay, neither I nor anyone else would recommend their being unduly pressed."

"The Government of Madras held that his view could not be accepted, and that the practice of Northern India is not applicable to the different circumstances of Madras. In Bombay, where, as in Madras, the land is held on ryotwari (petty proprietary) tenure the Government after consideration accepted this view, so far that the arrears of the present year in the famine tracts of Bombay are in part 'remitted,' and in part 'suspended' for collection in future years if seasons permit. The Government of India decided that the question of remitting or suspending the land revenue should be left to the discretion of the Local Governments. And the latest estimate of the Madras Board of Revenue is that 143 lakhs of rupees (1,430,000L.) of land revenue must be remitted on account of the recent failure of harvest. I see reason to hope that the total remissions, which will not be precisely known till August next, will fall below this estimate; for the Board has inculcated and enforced on Collectors carefulness and regard for the public treasury within the broad lines laid down for the settlement of the affair."

The decision of the Madras Government is taking effect. The question has, however, an important bearing on the finance of famines in general, and we have under consideration a separate paper by Sir Richard Temple on the subject, prepared after perusal of the detailed papers which were lately supplied to him by the Madras Government.

20. After a further visit to Salem, Arcot, Bellary, and Kurnool, Sir Richard Temple's mission to Madras terminated. He thus summarises his movements and proceedings:—

21. In summarising the state of affairs at the date of his minute (April 14th), Sir Richard Temple points out that the numbers relieved rose in the last week of March from 761,000 to 810,000, and expresses his expectation that they must rise further. Of persons on the works, he considers that the great majority do really need and deserve relief, but that there are many thousands not in absolute want who would still leave the works if task-work could be properly enforced. More he considers might have been, and might still be, done in this respect, especially by greater utilisation of the Public Works Department. At the same time he admits that the distressed districts are unfortunate in having comparatively few large and practicable projects suitable for relief labour. Of gratuitous relief he remarks:—

"The total of those on gratuitous relief amounts now to 115,000 persons. It is in some degree swollen by little children whose parents are on the relief works. Excluding these children, I am sure that the total is not larger than it ought to be. Indeed, I fear that it is not large enough. Despite the persistent efforts which have been made, the system of village relief and house-to-house inspection is far from perfect. Disappointment may reasonably be felt at the shortcomings in this matter under a ryotwari system which offers such advantages in this behalf. Much was to be expected from the hereditary headmen and the hereditary accountants in the villages, who represent ancient institutions, which have been studiously fostered by the Madras Government for generations. These men may yet do well, and are doing better than they did, but at first they were backward in their duty."

Review of
Sir Rd. Tem-
ple's report
on his mis-
sion to
Madras.

On the general condition of the people he makes the following remarks :—

“The physical condition of the people in the distressed districts of the Madras Presidency is fairly good; better decidedly than it was expected to be. An impression (which I quite share) seems to be gaining acceptance that the agricultural classes have more self-sustaining power, more life-supporting resources than was originally anticipated. There is reason to think that the relief wages earned by so many thousands have not been entirely spent in buying food, but have in part been hoarded. This circumstance may be expected to facilitate the discharge of these people as soon as the season shall improve. There is still some lamentable mortality in or about Madras itself, and in some other central places below the Ghât mountains, which, though immediately caused by disease, is in part traceable to insufficient nourishment. The death-rate among the people received into the relief camps in and about the city of Madras continues extraordinarily high. These occurrences, happening at or near the capital, naturally make a painful impression on the public mind. Elsewhere the physical condition of the peasantry is in the main satisfactory, although to a broad and important statement of this kind there are, and must be, some exceptions. On the whole, the consequences of the drought are being well subdued.”

With reference to their frame of mind, he considers that, while the relief operations must bind the people to the Government with ties of gratitude and respect, the constant recurrence of scarcity in one part or another of the Madras Presidency, and the quickening sense of responsibility for relief on the part of the Government may have tended, and tend, to foster a disposition to rely on the State and to lower among the labouring classes the sense of the duty of being independently industrious.

22. The activity of the grain trade, the early symptoms of which have already been referred to, has been unremitting, but was rather more conspicuous in January and February 1877 than subsequently.

“From the beginning of the present trouble down to the end of March 1877, the quantities of food grain brought into the distressed districts of the Madras Presidency amounted to about 535,000 tons. This great supply was drawn from several sources, thus :—

By sea into Madras, Tuticorin, and other east-coast ports from Bengal,	
Burma, Orissa, and Ganjam	- - - - 356,000 tons.
By sea into Bey pore and other west coast ports	- - - - 118,000 „
By the Great Indian Peninsula Railway from Northern and central	
India into the Madras Presidency	- - - - 61,000 „

“The pressure of the scarcity was felt in the interior of the country before imported grain began to arrive from distant provinces. And the earliest movement of the grain trade was the transport of grain by rail from old stocks on the coast into the interior. Considerable importations from without began in November, and the imports went on increasing till they culminated in January with a total of 101,000 tons. The imports slackened somewhat in February, when the total was 80,000 tons; and they were still less during the month of March.

“Only 30,000 tons of all this quantity were imported on Government account; the rest, 505,000 tons in all, were brought into the country by private trade. The imported grain was distributed by the Madras railways into the interior of the country, thus :—

Bellary, Cuddapah, and Kurnool received	- - - 147,000 tons.
The Mysore province received	- - - 81,000 „
The districts of North Arcot, Salem, Coimbatore received	73,000 „
The districts of Chingleput and Malabar received	- 10,000 „
	311,000

Of this total some was sent into the Nizam's territory, and the remainder has either been distributed by the South Indian Railway, by cart or by canal-boat, through the coast districts, or is still awaiting means of railway carriage into the interior. There were some considerable grain imports by cart from the southern parts of the Bombay Presidency, and much grain was carted from Raichore and other places in the Nizam's territory into Kurnool.

It is estimated that if imported grain did not come into consumption before November, the grain carried into the interior by rail up to the end of March was sufficient to feed $3\frac{3}{4}$ millions of people for six months, or to support 25 per cent. of the population of the more distressed parts of Madras and Mysore from 1st November to the end of April. The sufficiency of these importations is shown by the fact that the price of common

food-grain at the larger marts has since January 1st usually been cheaper than 16 lbs. per rupee, while at the lesser marts in the interior it has rarely been so dear as 14 lbs.

Review of
Sir Rd. Tem-
ple's report
on his mis-
sion to
Madras.

23. With a view to the future and the frequent recurrence of famine in Southern India, Sir Richard Temple makes some interesting and valuable remarks on the destruction of forests and jungles owing to a variety of circumstances, which shall have our careful separate consideration.

24. The concluding part of the minute is devoted, in the first place, to a summary of the lessons to be deduced from all the circumstances which have yet occurred in connexion with these affairs, which is full of practical wisdom, and will not bear any further condensation. Much of what is here so ably stated commands our full concurrence, but as the famine is unfortunately not yet over, we shall defer detailed notice of the several points brought forward until we are in a position to review, as a whole, the operations of 1876-77 in Madras, Bombay, and Mysore.

25. Sir Richard Temple records in the following terms his appreciation of the courtesy and consideration which he has experienced during his very delicate and responsible duties, and of the admirable tone and conduct of the Madras local officers engaged on relief works, with whom he has been brought so much in contact :—

“I must declare my cordial thanks to the Madras Government and its principal officers for all the kindness and consideration received from them during my mission. And though the Government is doubtless well aware of the merits and services of its officers throughout this trying time, yet I must state my sense of, and add my testimony to, the excellent conduct of the local officers, the Collectors, Sub-Collectors, Assistants, and other Civil and Military officers employed on relief. Having travelled, worked, and lived among them for three months of strenuous exertion, I have unsurpassed means of knowing how unremittingly they have toiled, how thoughtfully they have planned, and how anxiously they have striven, in the service of the Government and for the good of the people.”

26. Regarding his personal staff Sir Richard Temple, who is always conspicuous for his readiness in acknowledging the assistance he receives from those who are employed under him, makes these remarks :—

“My thankful acknowledgments are due to the members of my staff, Mr. C. E. Buckland, C.S., Captain S. Rivett-Carnac, and Dr. R. Harvey, for their zealous and useful assistance in the work of the mission; also to Captain W. S. S. Bisset, R.E., for his vigilant attention to all affairs connected with the grain traffic on the railways.

“From my Secretary, Mr. C. E. Bernard, C.S.I., I have received valuable aid and counsel in every branch of the work, and I would represent his good service and his administrative ability for the favourable consideration of the Government of India.”

We have great pleasure in bringing to your Lordship's notice the excellent service rendered by the gentlemen named. While doing so, however, we must not omit both to express our own acknowledgments for the very able and exhaustive minute which we have just passed under review, and to repeat our warm admiration of the inexhaustible energy, the untiring zeal, and the conspicuous ability which have enabled Sir Richard Temple himself to endure, without, we are glad to know, any personal detriment, the enormous physical labour and the exposure to climate which his mission has involved, and to accomplish, by his tact, firmness, and discrimination, the objects which that mission was designed to achieve.

27. We enclose a letter* which we have addressed to the Government of Bombay, briefly reviewing the condition of the Native States in that presidency affected by famine. These States are 18 in number, and the portions affected comprise an area of 9,708 square miles, and a population of 847,848. Some parts of these States have suffered severely, but on the whole we are glad to find that there has been in them no extreme distress, and that the Native Chiefs and the political officers have taken measures sufficient to meet the necessities of the case.

* No. 261.

28. With reference to the 2nd paragraph of your Lordship's Despatch of the 26th of April, we enclose copy† of the proceedings of the Madras Government regarding the Sangam project, which would appear not to be yet ripe for execution. We also enclose a memorandum on the dynamic value of the task exacted from labourers on relief works, by Dr. Lyon, the Chemical Analyser at Bombay.

† No. 247.

29. We are glad to state that the prospects of the season are satisfactory, good rain having fallen in Bombay, Madras, and Mysore, and a fresh of upwards of four feet

having occurred in the Toombadra River. The numbers in receipt of relief were as follows according to the latest returns:—

In Madras	-	-	-	{ 772,947 on relief works.
				{ 412,461 charitably relieved.
In Bombay	-	-	-	{ 376,920 on relief works.
				{ 134,833 charitably relieved.
In Mysore	-	-	-	{ 64,399 on relief works.
				{ 108,482 charitably relieved.

We have, &c.
(Signed) LYTTON.

No. 263.

To his Excellency the Right Honourable the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

Revenue No. 46. India Office, London, 7th June 1877.

No. 221.

Para. 1. The Despatch of your Excellency in Council dated 19th April, No. 21 of 1877, relative to the progress of the famine in the Madras Presidency, has been considered by me in Council.

2. The Despatch chiefly refers to the discussion on the question of the sufficiency of the scale of rations to labourers on relief works. On this point I have very recently been in telegraphic communication with your Excellency in Council, and you have stated that no restriction has been placed on the Government of Madras in relation to this matter, and that if that Government is satisfied that the present rate is unduly low, it would doubtless raise it. Under these circumstances, I have no further instructions to give on the subject.

3. The favourable opinion again recorded by Sir R. Temple on the progress of relief administration in Mysore is satisfactory; but some explanation seems necessary as to the remarkable disproportion of the gratuitously relieved to those who are employed on works in Mysore, as compared with both Madras and Bombay. This disproportion seems to be increasing every week, and I should be glad to be informed of the causes. With respect to the migration of inhabitants of Mysore to the adjoining districts in Madras, and the incidence of the charges incurred for their relief, the facts do not appear quite clear, but no orders are at present demanded on the subject.

4. I concur, in conclusion, with your Excellency's Government in regarding as satisfactory the prospect of the supply of grain to the ceded districts from the north, as detailed in Captain Bisset's memorandum of the 31st of March.

I have, &c.
(Signed) SALISBURY.

No. 264.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

Revenue, No. 48. India Office, London, 14th June 1877.

No. 213.

Para. 1. The Despatch of your Excellency in Council, dated 12th April, No. 20 of 1877, relative to the famine in the Presidencies of Madras and Bombay, has been considered by me in Council.

2. The intelligence contained in this Despatch has been in some degree anticipated by telegrams, and I have also, by the same mail, received another Despatch, of the 19th April, from your Lordship's Government, containing information of a later date. It will not, therefore, be necessary for me to notice at any length the topics to which allusion is made in the present communication.

3. I concur with your Excellency's Government in considering that the Government of Bombay is entitled to great credit for the firmness and care with which it has dealt generally with the famine, and especially with the organised combinations to oppose its orders as to the grant of relief.

4. The statement of Sir R. Temple, that in the Deccan districts of Bombay no abuse of State charity is allowed, no appreciable amount of Government money is wasted, and no demoralisation of the rural classes is going on, is very satisfactory.

I have, &c.
(Signed) SALISBURY.

No. 265.

From the SECRETARY OF STATE to the GOVERNOR-GENERAL OF INDIA IN COUNCIL.

Revenue, No. 49.

India Office, London, June 14, 1877.

Para. 1. The Despatch of your Excellency in Council, dated 3rd May, No. 23 No. 245. of 1877, on the subject of the famine in the Presidencies of Madras and Bombay, has been considered by me in Council.

2. On the question of more effectually utilising the Public Works Department in the superintendence of relief works in the Madras Presidency, I do not propose at present to offer any remark. This subject has been alluded to by the Madras Government in a Despatch just received, and I am promised a more detailed communication on the question involved by an early mail. It would, therefore, be premature for me to enter on the discussion at the present juncture, and my abstaining from any remark now will enable me to receive a copy of your proposed Despatch to the Government of Madras, and a further expression of the views of that Government, before recording any opinion on the issue which has been raised.

3. With respect to the discussion between the Sanitary Commissioner at Madras and Sir R. Temple as to the rate of wages, I have addressed your Excellency by telegraph.

4. I fully concur in the estimate formed by your Lordship in Council, to which you have given public expression in the notification dated 30th April, of the valuable service rendered by Sir Richard Temple in the execution of the arduous duty connected with his recent mission to the distressed districts in the Presidencies of Madras and Bombay.

I have, &c.
(Signed) SALISBURY.

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REPORT

ON

SANITARY MEASURES IN INDIA IN 1875-76:

TOGETHER WITH

MISCELLANEOUS INFORMATION UP TO JUNE 1877.

VOL. IX.

Presented to both Houses of Parliament by Command of Her Majesty.



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REPORT.

I.—EUROPEAN ARMY.

The total death-rate in the European Army of India during 1875 was 17·48, or, excluding cholera, 14·16 per 1,000. In 1874 the rate was 13·58 per 1,000, the lowest that had ever been recorded. The following statistics may be compared with those of former years by reference to previous volumes :—

Per 1,000.

	Admissions.	Daily Sick.	Deaths.
Bengal - - - -	1,387·5	57·6	17·32
Madras - - - -	1,109·7	56·8	14·85
Bombay - - - -	1,404·0	53·6	20·92
Army of India - -	1,337·8	56·8	17·48

Except in the case of Bombay the ratios of sickness showed improvement, while the death-rate in all cases was considerably higher than in the preceding year.

The main causes of sickness were malarial fevers and venereal diseases; the latter stood first in the Madras Presidency. The following were the principal sources of mortality :—

Cholera	-	-	-	194 deaths.
Hepatitis	-	-	-	108 „
Apoplexy	-	-	-	101 „
Enteric fever	-	-	-	84 „
Phthisis pulmonalis	-	-	-	73 „
Malarial fevers	-	-	-	61 „
Heart diseases	-	-	-	60 „

The rate of invaliding was 40·25 per 1,000, against 43·78; the comparison being favourable to 1875 as regards both the number sent home for change and the number sent home for discharge. Of the discharges none were due to specially Indian diseases.

The year 1874 had been remarkable for the general immunity from cholera; among British troops there were only 12 cases. In the succeeding year the disease prevailed as an epidemic throughout the country. The cases in the European Army were as follow :—

Army.	Cases.	Deaths.
Bengal - - - -	201	136
Madras - - - -	7	4
Bombay - - - -	80	54
Total	288	194

The ratios, however, compared favourably with those of former epidemics. Great advantage was found to result from the removal of troops out of affected localities; and as the result of long and careful observation points very decidedly to the local rather than personal influence of cholera, it is probable that in future epidemics this policy will be generally carried out.

In the whole Army only 12 cases of small-pox occurred, of which 2 were fatal. Small-pox.

Malarial fevers were generally less prevalent than in either of the four previous years. There were 166 cases of enteric fever, 84 of which were fatal. Consequent on a previous suggestion by the Army Sanitary Commission (*see* Vol. VIII., p. 132), special attention was bestowed in all the Presidencies on the local examination of stations where cases occurred. Fever.

- Hospitals.** The mortality from hepatitis in the Army generally was less than it had been in the four past years, but in Madras it headed the list, as it had always done since 1871.
- Apoplexy.** Apoplexy was more fatal than it had been for many years back, excepting 1872: there were 240 cases and 101 deaths from this cause.
- Venereal disease.** The statistics of venereal disease were generally more unfavourable than in any of the previous four years. The Sanitary Commissioner (Dr. Cuninghame) is much disappointed with the results of the lock hospital system.
- Drunkenness.** In Bengal and Madras the returns of drunkenness among British soldiers showed an improvement; in the former the cases reported fell from 10,988 to 8,926. On the other hand, in the Bombay Army a considerable increase of intemperance appeared from the returns.
- Indian service.** The statistics show that, while, as regards length of service, British troops suffer much more during the first year than afterwards, as regards age, the excess of mortality as compared with the English rate becomes more decided as years advance. The health of soldiers commencing Indian service continued to be carefully attended to.
- The number of European troops and their families quartered in the hills of the Bengal Presidency has steadily increased since 1870; in 1875 the men numbered 9,150, women 839, and children 1,810.
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II.—NATIVE ARMY.

The ratios of admissions and of daily sick in the Bengal Native Army, calculated on the strength present, were 1,287·5 and 40·3 per 1,000 respectively; and the death-rate, reckoned on the total strength, was 16·3 per 1,000. These figures do not include the Madras troops serving in Bengal, for which the ratios were 897·7, 26·2, and 14·2. In both cases the sickness was less, and the mortality greater, than in 1874. The increase of mortality occurred chiefly in the Punjab Frontier Force.

The comparison with the statistics of the previous 10 years is very favourable to 1875 as regards both sickness and mortality.

Malarious fevers and bowel complaints caused a large proportion of the sickness in the Presidency and Eastern Frontier districts and in the Lahore and Peshawur commands; and the same diseases occasioned a great deal of the mortality. An unhealthy condition also prevailed very generally among the sepoys induced apparently by insufficiency of diet. The food available for them was, as a rule, plentiful, cheap, and of good quality, but, from motives of parsimony, and in a few cases also in consequence of a religious vow, underfeeding was very common. The fact that the death-rate among the Mussulmans is always lower than that among the Hindoos may possibly be connected with the use among the former of a more varied and generous dietary.

Of 132 cases of cholera, 58 were fatal. Only 34 cases of small-pox were treated, showing that the men were well protected.

It was found that marching and camp life produced a most beneficial effect on the health of the men. Tree-planting was also much resorted to, experience having shown that trees, planted with certain precautions, prove advantageous to health by preserving the purity and increasing the moisture of the atmosphere, as well as by protecting from extremes of temperature, and affording a grateful shade by their foliage.

The following table shows that in the Madras Native Army during 1875 both the numbers of admissions and of daily sick were below the averages of the preceding three years, while there was a marked increase of mortality and of the numbers invalided for discharge and sick leave:—

Years.	Ratio per 1,000 of Strength.				
	Admissions.	Daily Sick.	Deaths.	Invalided for	
				Discharge.	Sick Leave.
1872 - -	1,011·5	31·1	12·2	17·2	22·2
1873 - -	874·6	29·1	9·2	19·4	18·2
1874 - -	812·0	30·6	9·9	29·5	21·2
Average -	899·3	30·2	10·4	22·0	20·5
1875 - -	798·2	30·2	11·7	30·1	24·0

By far the largest number of admissions in 1875 was due to malarious fevers, but, although this was the case, the actual admissions under this head were very much fewer in 1875 than in the previous year. The diseases from which the next greatest numbers of admissions occurred were skin diseases, rheumatic complaints, and eye diseases. In the year under report bowel complaints were more prevalent than in the preceding year, but there was a marked decline in eruptive and continued fevers.

Malarial fevers and lung diseases produced the largest numbers of deaths, and next to these came bowel complaints. Lung diseases however were, with reference to the number of admissions, by far the most fatal, the percentage of deaths to admissions under this head having been no less than 7·4.

Considering the great prevalence of cholera amongst the civil population in 1875, it is remarkable that in the Native Army there were but 88 seizures, and 34 deaths. As

NOTE.—The figures in this Section are taken from the Surgeon-Generals' returns, not from the Sanitary Commissioners' Reports.

some of the regiments were quartered in stations in which the disease was very prevalent, such an immunity could not be considered as merely fortuitous, but it was probably due, in a great measure, to the various sanitary improvements which had been carried out in the lines, and to the care exercised over both men and followers during the prevalence of an epidemic.

Bombay
Army.

During the four years 1872 to 1875, while the average strength of the Bombay Army remained almost stationary, there was a progressive annual diminution in the statistics of sickness, showing apparently that the measures taken to preserve the health of the soldiers have, except in some notoriously insalubrious stations, borne year by year more valuable fruit.

The ratio per 1,000 of admissions to hospital during 1875 was 1,116·3. The mortality, however, was greater than that of 1874, the ratios being 12·2 against 10·9 per 1,000; the principal cause of this was the epidemic of cholera which prevailed amongst a portion of the troops.

This epidemic, which raged severely among the civil population over all the districts of the Presidency except Sind, touched the Native troops comparatively little, although many regiments were stationed in affected localities. The Presidency and Sind divisions were wholly untouched by it. In the Poona Division there were 22 cases and 15 deaths, and in the Northern Division 98 cases and 56 deaths. Surgeon-General Thom "cannot speak too highly of the efforts of all the regimental medical officers to prevent the disease reaching the lines, to check it by careful treatment, and to thoroughly cleanse every place and article which had any connexion with cholera." But, while according every credit to such deserving efforts, he adds that similar efforts failed to keep the disease out of the lines in several stations.

Malarious fevers were the principal cause of sickness. At Poona a considerable increase in the number of fever cases took place, due no doubt to the continued wet weather which occurred there in August. In the 1st Regiment Light Cavalry, owing to the flooding of the camp and to the insanitary state of the grass-cutters' lines, a very severe type of ague showed itself, and continued to prevail till the end of the wet season. Similarly the increased insalubrity of Jacobabad was attributed to the floods of 1874. The percentage of malarious fevers to the total diseases treated was, for the Presidency 35·2, for Poona 37·7, for the Northern Division 39·7, and for Sind 52·8.

Vaccination was thoroughly carried out, and only infants of tender age remained unprotected. There were no deaths from small-pox.

Food was reported to be generally cheap and good, but vegetables were in many places scarce. The officer commanding the wing of Her Majesty's 10th Native Infantry at Augur established a regimental garden, well stocked with vegetables of all kinds, which were distributed to the men at the small charge of six pies each per mensem.

III.—GENERAL POPULATION.

The following tabular statement gives a concise view of the comparative mortality in the different provinces of British India from the four principal death causes :—

Mortality
from chief
diseases.

1875.

PROVINCES, &c.	CHOLERA.		SMALL-POX.		FEVERS.		BOWEL COMPLAINTS.	
	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.	Total Deaths.	Ratio per 1,000.
Bengal (excluding Calcutta)	108,262	1·80	5,280	·09	368,087	6·14	35,645	·59
Calcutta	1,726	4·01	775	1·80	5,444	12·67	2,095	4·87
Madras	94,546	3·12	24,775	·82	252,042	8·32	37,484	1·24
Bombay	47,629	2·93	3,461	·21	219,156	13·50	33,650	2·07
Punjab	6,246	·36	13,611	·78	279,825	16·00	27,549	1·57
North-West Provinces	41,106	1·33	25,819	·83	456,485	14·83	80,337	2·61
Oude	23,321	2·09	5,612	·50	130,609	11·69	6,515	0·58
Assam*	6,618	1·72	159	1·11	1,113	7·79	484	3·39
Central Provinces	14,643	1·98	20,226	2·73	120,480	16·26	15,562	2·10
Berar	22,465	10·28	927	·42	26,076	11·93	20,818	9·53
British Burma	761	·27	752	·26	25,075	8·74	5,212	1·81

* The figures for Assam, except those relating to cholera, are limited to the "selected areas."

Some facts brought out by this table are the excessive loss from cholera in Berar, the great fatality from bowel complaints in the same province, the high death-rate due to small-pox in the Central Provinces, and the very large proportion of the mortality in all the provinces registered under the head of fevers.

In the Bengal Sanitary Report for 1875 the following opinion is given with reference to the working of the system of registration in selected areas :—

"It has been shown that the system of selected circles of registration has not answered, in that no decided improvement in results has taken place since its introduction, while a small, but steady, advance has been made in the general circles. It is also evident that the chief object of registration, namely, to ascertain the locality and potency of disease-causes with the view to their abatement or removal, cannot be attained by a scheme which includes but 4·48 per cent. of the population and 2·28 per cent. of the area of the province. There can be no doubt, too, that the mere selection of special circles of registration implies the admission that general registration is, for the present at least, of less importance, and, as a consequence, general registration is undervalued, and in some districts, it is feared, neglected."

The Sanitary Commissioner with the Government of India is in complete accord with these views.* The Local Government, however, remark on the subject :—

"The objections brought forward have been separately disposed of and need not be now repeated. It need only be said that they have not been accepted by Government. The general opinion of the local officers who have been consulted is very decidedly against making any change in the present system, and in the opinion of the Lieutenant-Governor that system should be maintained. The greatest respect is entertained for the views of the sanitary authorities, and their endeavours to improve the registration are most cordially acknowledged; but it seems to be the case that their endeavours can be most efficiently met by the gradual extension of the system of selected areas, and this is an object which accordingly will always be borne in mind by Government."

* The Sanitary Commissioner for Bombay objected in the following terms to the introduction of a similar system in that Presidency :—

"If no use were to be made of what may here be termed the outside returns, there would be little use in transmitting them to a central office; but, seeing that we have them for the past ten years, it would be a pity to give up the ground already gained, more especially as the prospect is more promising. If, again, in these outside areas it were known that the deaths, though registered, were not returned to an office in which they are so closely scrutinised, they would gradually become less and less accurate. I cannot but think it will be better to lighten the mass, and let it work—no matter how slowly."

At the same time, the following measures have been carried out, with the approval of Government, with a view to the improvement of general registration :—

1st. A modification of the registers and statistical forms; the new forms being brought into use on 1st January 1876.

2nd. The increase of registering stations.

3rd. The extension of compulsory registration. With regard to this, however, the Lieutenant-Governor states that, except under special circumstances, the operation of the compulsory Act will be restricted within the limits of municipalities and of selected town areas, the country at large not being yet ripe for such a measure.

4th. The early publication of the results of registration in each district.

5th. Prompt intimation to district officers of the nature and locality of defects appearing from the monthly returns.

The death-rates in the selected circles show nearly equal results for three years :—

		Urban.	Rural.	Combined.
1873	- -	26·84	23·26	24·85
1874	- -	28·59	21·20	24·72
1875	- -	29·27	20·72	24·80

As a whole, the figures of the selected areas, especially of the country districts, cannot be accepted as even approximately correct, but for some towns and rural circles they are believed to be fairly complete. Howrah gives a ratio of 49·03 per 1,000; Darjeeling of 43·07; Gya of 36·63.

The death-rate in Calcutta, calculated on the census of 1872, was 33·67 per 1,000; or, according to the special census taken of that town in April 1876, 35·08 per 1,000.

The proportion of births per 1,000 in the selected circles rose from 21·81 to 24·07.

No single district in the province escaped altogether from cholera, and in some the disease was in operation all the year round. More than one fifth of the total mortality was attributed to this cause. The number of deaths in each month was as follows :—

January	- -	4,993	July	- -	6,140
February	- -	5,580	August	- -	4,297
March	- -	11,191	September	- -	2,623
April	- -	12,395	October	- -	5,425
May	- -	10,695	November	- -	18,363
June	- -	7,998	December	- -	18,562

Thus there appear to be two distinct periods of the year in which cholera prevails with greater intensity in Bengal, viz., in the hot season from March to July, and in the two last months of the year, which are always full of malaria. The rainy season was the period when there was least cholera.*

Small-pox was present during the year in every district. It prevailed with slightly increased intensity as compared with 1874 in 11 districts, and with considerably abated activity in the remaining 33 districts. It was, on the whole, very mild in character, and considerably less fatal than in 1873 and 1874. Only 5,280 deaths were reported to have occurred in 1875, against 10,933 and 12,056 in the two preceding years.

As usual, the disease recurred with the greatest severity in the hot months. Prevailing in February, it advanced in activity and fatality as the hot weather progressed, culminating in intensity in April. Hooghly, Backergunge, and Tipperah were exceptions in this respect, for in these districts the greatest mortality occurred in November and December.

Deaths from fever numbered 368,087, against 328,721. The reports indicate, with few exceptions, that it occurred with less severity than it did in the previous year, and the apparent increase which the results of the year show are probably due to improvement in registration. By far the largest proportion of the fever of this province is of malarial origin, and the specific fevers of Europe are seldom met with or recognized except in Calcutta and its neighbourhood.

The seasonal activity of this cause of death in Bengal was found to be similar to that of previous years. Fever declines in fatality from January to February, increases

* Further information on cholera in Bengal will be found under SPECIAL DISEASES (p. 40).

somewhat in March, April, and May, and returns fewest deaths in June. From June there is gradual increase again, month by month, till November, when the maximum intensity is reached. From November the decline in the mortality is rapid, and continues till February of the following year.

The recorded deaths from bowel complaints amounted to 35,645, but it is believed that much of the mortality which should be registered in this class is included with fever and other diseases.

The year was characterised in the Madras Presidency by a prolonged and trying hot season. The rainfall was at the same time below the average, and very much less than in 1874. The most notable result of these peculiarities was a deficient supply of potable water, and this, combined with the depressing influence of a long sustained high temperature, had an injurious effect on public health, which was also greatly disturbed by a very severe epidemic of cholera, and by the prevalence of small-pox and fever. So far as the civil population were concerned, 1875 was, from these causes, one of the most unhealthy years that had been experienced in Southern India for a considerable period. Madras.

Among the native population of this Presidency 641,260 deaths were registered, the proportion per 1,000, calculated on the census of 1871, being 21·1, against 17·1 in the previous year. The prevalence of cholera was one cause of the higher rate. In some of the municipal towns the mortality was very high, reaching 73·8 per 1,000 at Cumbum. The death-rate in the capital was 35·6, comparing favourably with 37·1* in 1874.

Deaths from cholera numbered 94,657†. Small-pox was universally diffused, but the number of deaths (24,787) was less than in any year since 1871. Fever deaths amounted to 252,131; the mortality from this cause is said to have been increasing year by year since 1868. Under bowel complaints 37,613 deaths were registered.

The birth-rate in the Bombay Presidency for 1875 was the highest recorded, namely, 21·01 per 1,000. For every 100 male there were 90·52 female births. The death-rate was 23·15; the maximum was in July, and the minimum in February. Bombay.

The Bombay Government propose, until a separate agency can be found, to work the registration under the orders of the Collector; and an important element in the change is, as the Army Sanitary Commission observe, that the people themselves will be "called on to assist in providing correct information for entry in the records, and may thus be led to take greater interest in measures for diminishing their village death-rates. So far as concerns the general sanitary work of the Presidency, these proposals will have the immense advantage of liberating the Sanitary Commissioner from statistical details, and thus enabling him to devote his whole time to his proper functions. The plan, as a whole, is worthy of a full trial, and will doubtless lead to greater completeness in registration, and possibly in time, and by the influence of the inspectors, who are all medical men, to more accurate knowledge of the chief death causes than has hitherto been possible."‡

There were 47,555 deaths from cholera among the civil population, out of 96,012 attacked; in the previous year there had been only 37 deaths.§ The monthly distribution was as follows:—

January - - -	1	July - - -	12,906
February - - -	1	August - - -	8,609
March - - -	10	September - - -	3,493
April - - -	795	October - - -	3,548
May - - -	5,359	November - - -	1,640
June - - -	10,374	December - - -	819

From small-pox 3,461 deaths were recorded, against 3,903. The highest mortality was in April, and the lowest in October.

The fever deaths were 219,156 in number, exceeding those of any past year of registration.

* Not 36·6, as stated in last volume, p. 6.

† Full information respecting the rise and advance of the epidemic of 1875 in the Madras Presidency will be found at p. 110.

‡ See MEMORANDUM, p. .

§ For a table of deaths in the ten years 1866-75, and the particulars of the epidemic, in the Bombay Presidency, see p. 118.

Punjab.

The registration of vital statistics in the Punjab showed some further advance, but was still generally in an unsatisfactory condition. The Government having advised all municipal committees to pass a byelaw rendering registration compulsory, in the year under review 33 municipalities complied with this advice, and altogether there were 157 municipalities, inclusive of 7 cantonments, in which the registration of births and deaths was rendered legally compulsory. In the five principal cities*

*Umritsur	-	62
Delhi	-	51
Lahore	-	43
Peshawur	-	45
Mooltan	-	34

the death-rates were very high, owing partly to improved registration and partly to the peculiar unhealthiness of the year.

The total number of deaths registered in the province was 130,495 in excess of the number in 1874. The great bulk of the increase was under the head of fevers, to which 279,841 deaths were assigned, being 89,210 more than in the preceding year. There was an enormous mortality from remittent fever. The state of the Jullundur Doab attracted special attention in this respect. In the town of Jullundur upwards of 500 people died in a single week out of a population of 33,673. The popular belief is that this increase of fever in the Doab is due to the country having become waterlogged (the height of the water in the wells having risen two or three feet), and that the only effective remedy is thorough drainage.

Deaths from bowel complaints increased from 16,407 to 27,550.

The statistics of deaths from cholera for a period of ten years are as follow:—

1866	-	1,051	1871	-	369
1867	-	43,146	1872	-	8,727
1868	-	532	1873	-	148
1869	-	9,258	1874	-	78
1870	-	469	1875	-	6,246

The deaths from this cause registered during 1875 were thus distributed:—

January	-	4	July	-	747
February	-	4	August	-	1,515
March	-	4	September	-	2,117
April	-	10	October	-	1,358
May	-	41	November	-	129
June	-	316	December	-	1

The disease made very slow progress till the week ending 31st July. After that date the mortality rose rapidly till the week ending 4th September, when it reached its climax. Then for five weeks it fluctuated. In the week ending 16th October a downward tendency was very marked, and the mortality declined without a check to its final extinction at the close of November.

The outbreak of cholera at Simlā was referred to at length in the last Report (p. 29).

In the returns of deaths from small-pox there was an advance from 12,026 to 13,594. Compared with 1873, however, the mortality from this cause continued to show a remarkable diminution, which is distinctly traced by the authorities to the effect of vaccination.

North-West
Provinces.

The death-rate recorded in the North-West Provinces for 1875 was 21·8 per 1,000, the same as in the preceding year. It is considered to be much below the reality. For town circles the rate was 31·70, and for rural circles 21·07; but it is not probable that an average of one-third more deaths occur amongst the urban populations than amongst the rural. In many districts the registration was well effected, and the Sanitary Commissioner is of opinion that the failure, seen in the results for the whole province was due to neglect of registration in a few districts, especially in those of Bustee and Allahabad.

The following statement shows the number of cholera deaths registered for some years back:—

1865	-	76,322	1871	-	3,473
1866	-	8,175	1872	-	50,565
1867	-	57,837	1873	-	15,268
1868	-	20,680	1874	-	6,396
1869	-	90,770	1875	-	41,106
1870	-	13,123			

The Army Sanitary Commission make the following comment on these figures :—
 “ We know little as yet of the laws which determine the intensity of epidemic cholera, but it is not an unimportant feature in this record of mortality that the aggravations of the disease have been less intense during the latter than during the former years of the series, and that the total mortality has diminished.”

The disease prevailed in all parts of the province, excepting Jhansi and Lalitpur in the south and Kumaon in the north. During the months of January and February a few sporadic cases occurred in all parts of the province; in March the disease commenced to be epidemic in the eastern districts; in April it had become epidemic in all those districts; in May the epidemic influence had extended to nearly all the central and western districts; during June, July, and August this extended prevalence continued, the mortality being nowhere very severe; in September and October it declined in the eastern, while it increased in the western districts; in November the disease prevailed only in Rohilkund to any extent, and in December only in Bustee.

Deaths from small-pox numbered 25,819, against 93,247 in 1874. Omitting Kumaon, Gurhwal, and Dehra Doon, which have been practically exempted by the protecting influence of vaccination, the disease was present, in a fatal form, in some part of every other district of the province.

The usual great mortality was recorded from fevers.

Bowel complaints were the cause of 80,337 deaths, against 60,865. The mortality from this cause appears to fall principally upon the people of Bundelkund and the Himalayahs, and of certain districts of the Doab and Rohilkund. It is noteworthy that no deaths were recorded in any eastern district, although dysentery might be expected to prevail more in the eastern than in the western districts.

With respect to the mortuary tables for Oude, the Sanitary Commissioner remarks :— Oude.

“ It is needless to dwell on the known untrustworthiness of these returns, which is the natural upshot of employing the agency that is used to collect them; for, as the Deputy Commissioner of Sultanpur writes of the chowkedars, ‘ it has been found on actual enquiry that young children, girls especially, count for nothing, so too aged women; what they consider it necessary to report is the deaths of able-bodied men and males in general, and next adult women, with a limit of discretion.’ * * * As long as we have to depend on the chowkedars and relatives of the deceased, no great improvement is to be looked for; nor, indeed, do I believe that we shall get anything of a satisfactory nature until the work is carried on by paid officials,* either by the village putwarees, or, if we can get nothing better, by the chowkedars, who would no doubt be far more careful and zealous if a portion of their stipend were to depend on the attention paid to mortuary registration.”

With regard to Sitapur, where the deaths were registered at the rate of 47·58 per 1,000, he observes :—“ This return makes one almost believe that the high number was the result of that complacent urbanity which induces a native to endeavour to suit his returns to his superior’s wishes.” The rate given for Pertabgurh (38·3) is considered to be probably an approach to the truth.

The mortality from cholera amounted to 23,321. The comparison with previous years brings out the remarkable immunity of 1874 :—

1869	-	-	23,134	1873	-	-	3,961
1870	-	-	15,318	1874	-	-	68
1871	-	-	16,032	1875	-	-	23,321
1872	-	-	26,566				

The monthly progress of the disease was as follows :—

January	-	-	—	July	-	-	1,050
February	-	-	56	August	-	-	979
March	-	-	824	September	-	-	1,636
April	-	-	8,726	October	-	-	1,856
May	-	-	4,206	November	-	-	862
June	-	-	2,137	December	-	-	989

* The Government of India do not concur in this view, and observe :—“ The chronicling of domestic events is a duty which must be performed by the people themselves, and it is only by urging on them its practical importance that they will gradually become accustomed to its performance.”

Throughout the epidemic there was no regular progress in any one definite direction either from east to west, or otherwise along main lines of communication. There was rather a series of isolated outbreaks, commencing in given spots and spreading thence in every or any direction.

The Sanitary Commissioner sees no reason to believe that the disease was imported, as the experience of previous years seems to point to the fact that cholera has taken up its permanent residence in Oude.

Small-pox occasioned 5,612 deaths, being 9,618 fewer than in 1874. The decrease is probably due in part to defective registration, and in part to the fact that every great epidemic is followed by a lull, the number of possible victims being reduced by previous years' outbreaks. Vaccination has made too little advance to receive any of the credit.

There were 130,609 deaths attributed to fevers. Some remarks in regard to this death-cause will be found under SPECIAL DISEASES (p. 44).

Central
Provinces.

The registration in the Central Provinces produced a mean birth-rate of 35·35, and a death-rate of 26·32 per 1,000, being an increase on the rates of the previous year of 0·42 and 2·83 respectively. Of 261,906 births, 139,412 were of males and 122,494 of females. The increase of mortality was the result chiefly of the great prevalence of cholera and small-pox. The deaths of infants under one year of age formed 27·2 per cent., and of all children under six 48·7 per cent., or nearly one-half of the total deaths. In the district of Narsingpore, which suffered very severely from small-pox, the deaths of children under six years of age formed 64 per cent. of the deaths from all causes.

The following table shows the number of deaths from the four chief causes, as compared with the previous year:—

	1874.	1875.
Cholera	14	14,643
Small-pox	17,696	20,226
Fever	118,043	120,480
Bowel complaints	14,535	15,562

In the course of the five years intervening between 1869 and 1875 the amount of cholera had been very slight and limited to small areas, but in 1875 it became widely prevalent, and although the mortality it occasioned was not so great as in 1869, cases occurred in every district of the province with the exception of Damoh. A reference to the Memorandum of the Army Sanitary Commission (p. 169) will show the distinct effect upon cholera in various towns and districts of cleanliness and of an abundant supply of good water.

The year 1869 was marked by great prevalence of small-pox as well as of cholera. In the following year cholera became almost extinct, but small-pox, though it declined to less than a tenth of its prevalence over the province in the previous year, and had altogether died out in the districts in which it had prevailed with the greatest severity, continued to spread in the remote districts of the Satpuras, and it was not until 1871 that it reached its minimum of prevalence. But in that year, although it was almost entirely absent from the greater part of the province, a new epidemic commenced in the extreme west, which continued to spread during the four subsequent years, reaching its maximum of prevalence in 1875.

The excess in the fever mortality over that of 1874 occurred chiefly in the first six months of the year. The mortality of the last six months (the fever season) was on the whole less in 1875 than in 1874.

Berar.

Progress continued to be made in securing more correct registration of vital statistics in Berar, but the calculations lose much of their value from being based on census returns taken in 1867. The average death-rate from all causes, which in 1874 had been 27·9, rose to 40·2 per 1,000; this large increase was chiefly due to the cholera epidemic, to which 25·4 per cent. of the total death-rate was due.

Cholera* was more general and more severe in Berar than in any other province of India; the deaths from this cause numbered 22,465. Its first appearance was on the 9th of May in the Buldana district, and its monthly progress was as follows:—

May	249	September	2,007
June	3,625	October	318
July	10,374	November	52
August	5,840		

* See also remarks under SPECIAL DISEASES, p. 43.

No efforts were spared to alleviate the sufferings of the people and to check the spread of the disease.

The small-pox* deaths numbered only 927, being fewer than in any year since 1871. There were 26,076 deaths registered under fevers; and 20,818 under bowel complaints. The mortality from the latter cause continued to hold its high place in this as compared with other provinces.

In British Burma efforts were made to secure trustworthy vital statistics, and there was some improvement. The district officers, however, are stated to have taken very little interest in the work. The death-rate, reckoned on the population shown by the capitation tax returns, was 14·08 per 1,000. The statistics of towns were not satisfactory; the death-rates varied from 9·41 and 10·69 for Pongday and Akyab to 38·55 and 40·55 for Shwe-doung and Bassein. Amongst children under five years of age the mortality was 30·13 per cent. of the total number of deaths at all ages.

There were only 761 deaths reported from cholera, which did not assume an epidemic form anywhere but in the town of Bassein.

It appeared in the district of Moulmein in April, and continued in a sporadic form until August, causing 84 deaths. In the town there were 27 deaths, scattered over its large area.

The next cases were in the town of Rangoon and the neighbouring district of Thonkwa, where it appeared simultaneously on the 3rd November; those in the town of Rangoon appeared on the river-bank. In the Thonkwa district 206 deaths occurred; the civil surgeon, however, was of opinion that the disease there was not genuine cholera.

On the 12th December a healthy girl was attacked in the town of Bassein, and died in a few hours; this case was rapidly succeeded by other fatal cases, and on the 16th 11 died: all the cases were on the river's bank, and within a circumscribed area. There was no cholera in the district at the time, nor any history of importation. This epidemic ceased at the end of the year. In the district 54 deaths were recorded.

There were 10 deaths in the Prome district from August to the end of the year.

The mortality from small-pox was only 752 as compared with 1,191 in 1874, and 1,416 in 1873, and it was less than during any previous year of which there is a record. In no case did it assume an epidemic form; the greatest number of deaths was in March, at which season the inoculators do the greatest part of their work, and the lowest number in November. Vaccination contributed in some degree to the comparative immunity of the province from small-pox, the improvement being marked wherever an interest was taken in the work.

From bowel complaints 5,312 deaths were recorded, against 4,390 in the previous year. In the towns of Shwe-gyeen and Shwe-doung the death-rates from this cause were very high; in the latter it was 38·55 per 1,000. A special enquiry was ordered with reference to this excessive mortality.

With the exception of malarious fevers,† the prevalence of the various diseases in Rajpootana showed similar proportions to former years. Diseases of the skin, and abscess and ulcer, afforded the highest ratios; among the reasons specified for this are filth, use of country-made soap (which contains an undue proportion of alkali, not well combined with the fatty matter), use of brackish water, poor living, and indifferent protection against changes of temperature.

Cholera raged in 1875, being generally more prevalent in those places which afforded it a habitation in the former epidemic years of 1869 and 1872. The first intimation of cholera during the year was in the end of April, when three cases were reported from Bhurtpore. About the 7th and 10th of May other cases occurred in Bhurtpore, where the epidemic soon assumed large proportions, there being no less than 1,668 cases reported in this State, with a mortality of 53 per cent. On the 10th of May cases occurred at Sokait in Holkar's territory; after which it became dispersed all over the country. Altogether there were 2,776 deaths reported. Generally the epidemic was over by the middle of September, but it lingered in Bhurtpore until November.

There was very little small-pox; but bowel complaints were numerous.

The total number of deaths from all causes in Mysore was much the same as in the previous year. The deaths from cholera rose from 2 to 3,139. On the other hand, small-pox, which in 1873 and 1874 respectively had numbered 3,052 and 1,535 victims, showed a further marked decrease in 1875, when the casualties amounted to 544 only.

* See remarks under SPECIAL DISEASES, p. 47.

† See remarks under SPECIAL DISEASES, p. 46.

Coorg.

The death-rate in Coorg was returned as 24·76 per 1,000, but the statistics, it is stated, cannot be relied on. Only 5 deaths were recorded from cholera, although the epidemic prevailed severely in Mysore.

Small-pox at
Bombay in
1876.

The first quarter of 1876 was remarkable for an unusually virulent outbreak of small-pox in the city of Bombay. In the three preceding years the mortality from this cause had been—

1873	-	-	-	-	714 deaths.
1874	-	-	-	-	261 „
1875	-	-	-	-	248 „

Towards the close of 1875 ominous signs of an impending epidemic were perceptible, but it was not until the beginning of February that it assumed alarming dimensions. In all, 2,064 deaths were registered during the quarter, the mortality gradually increasing until it reached its highest point in the week ending 14th March, when there were 320 fatal cases. From this time, contrary to all experience, it began to decline, a fact which probably was the result of the prompt and vigorous measures taken to check the disease.

The deaths returned in the first fourteen days of March were equal to an annual rate of 24 per 1,000 persons living, whereas the small-pox rate in London during the two most fatal weeks of the epidemic in 1871-2 was but 4 per 1,000.

IV.—JAILS.

In many of the Bengal jails the sickness and mortality were very great. The hospital admission-rate in the Presidency jail was so high as 2,841 per 1,000; in this case the mortality was comparatively trifling, but in many others it was very high. The principal death-causes were dysentery and diarrhoea. Many serious defects exist in the jails of the Lower Provinces, and overcrowding was a very common evil. These defects were engaging the anxious consideration of the authorities, but very exceptional difficulties were involved.

The total number of deaths in all the jails of Bengal was 1,015, of which cholera occasioned 91, dysentery 360, diarrhoea 114, fever 85, pulmonary disease 146, and other diseases 219. The death-rate per cent. was 4·96, against 5·59 in 1874. The average death-rate for the five years immediately preceding 1875 was 4·94 per cent.

In 20 jails the mortality was above the average and in 29 below. Among the former Julpigoree again headed the list, with a death-rate of 24·66 per cent. No satisfactory solution has yet been obtained of the extraordinary unhealthiness of this jail. The site, which was supposed to be unhealthy, has been examined by a Special Commission and reported to be unobjectionable; the drinking water was brought daily fresh and pure from the Teesta river; there was no overcrowding; the jail, a bamboo structure, was dry and well ventilated; the diet of the prisoners was more liberal and varied than in most jails; the labour was unusually light; and the utmost care was bestowed on the conservancy arrangements: but in spite of every precaution, cholera and dysentery year after year have carried off in nearly equal proportions about 20 per cent. of the prisoners. Prior to 1870 the unhealthiness of this jail was attributed to the site and to the use of earthen beds, and in that year the jail was moved to its present site, and bamboo "machans" were substituted for earthen beds. The year 1873 promised well, for the mortality fell from 42·62 per cent. in 1872 to 5·55; but the statistics of 1874 and 1875 show that the improvement was transient, and that there are deeper causes at work. The fact that this jail takes a singularly high place in every class of disease except fever would appear to point to some widespread climatic rather than to any purely local influence.

The female prison of Russa stood second in the list of mortality; the returns showed a death-rate of 13·89 per cent., which was double the average of the five preceding years. This great mortality was attributed partly to overcrowding and partly to the extreme unhealthiness of the season towards the end of the rains in 1875.

The third jail in order of mortality was Rungpore; the death-rate there was 12·42 per cent., which was however an improvement on that of the preceding year, namely, 17·68. The district is notoriously unhealthy, and almost every prisoner is said to be more or less diseased when he enters the jail. The superintendent observes: "The year was characterised by extreme unhealthiness, and unfortunately with the unusual prevalence of climatic disease there was unavoidable overcrowding in the jail. From my experience as medical officer of the district I can say that the sickness and mortality in the jail was simultaneous with much disease and death among the free population. At the same time, there can be no doubt that, if the jail were capacious, and the influx of criminals were not so great, mortality would have been less than what it was among the prisoners. Although this mortality is to be deplored, it is no small matter of congratulation that cholera did not enter the jail when it was causing terrible havoc in the neighbourhood."

The two jails of Midnapore showed a heavy mortality, the reason for which could not be ascertained. The district, having a dry laterite soil, is believed to be an unusually healthy one. The buildings are large, airy, well raised, and well ventilated, thoroughly drained and on good sites; the water-supply is good; there was no overcrowding. In the central jail the prisoners were employed almost exclusively on out-door labour, in the district jail entirely on in-door labour. Two years previously it was pointed out that prisoners transferred from the damp eastern districts quickly contracted lung diseases and suffered generally in health in the dry atmosphere of

NOTE.—The figures in this Section are taken from the Reports of the Inspectors-General, not from those of the Sanitary Commissioners.

Midnapore. All transfers from these districts were accordingly stopped, but the sickness and mortality were in no way altered or diminished. It appears from the medical officer's report that a large number of the prisoners entered in a weak and emaciated condition. Dysentery of severe type and pulmonary diseases carried off the largest numbers.

On the other hand, the low rate of mortality which has characterised the Orissa jails (Cuttack, Balasore, and Pooree) during recent years is equally unaccounted for. The climate, generally speaking, of these districts is not remarkable for salubrity; fever, small-pox, and cholera, are endemic in them all. The jails are badly constructed, and in a hygienic point of view have many defects, and they are frequently overcrowded; yet they remain extraordinarily healthy. In the case of Pooree this is especially remarkable, for the jail is situated in the midst of a pestiferous town, and within a few feet of the large cholera hospital, which is annually filled with hundreds of dying pilgrims, and across which the sea breeze blows straight into the jail; yet not a single death occurred in the Pooree jail in 1874, while in 1875 the mortality was only 76 per cent.

The Behar jails were much less unhealthy than for many years past. The North Behar group showed a decrease, as compared with 1874, of 4.51, and the South Behar group of 1.31 per cent.

A committee appointed to inquire into the cause of the excessive mortality in the Behar jails submitted their report on the 1st March 1875. They recommended (1) the erection of a new central jail for Behar at Buxar; (2) the early construction of the new district jails which had been already sanctioned for Gya, Mozufferpore, and Chumparun, and the allowance of a sufficient margin therein for the accommodation of surplus prisoners from other districts who could not be sent to central jails; (3) the carrying out in the other district jails of certain improvements in regard to drainage, ventilation, conservancy, water-supply, dietary, and clothing. These recommendations were approved by Government, and steps were at once taken to carry them into execution. The minor recommendations made by the Committee have also been carried out so far as the funds at the disposal of Government would permit.

Madras.

The health of prisoners in Madras generally was good; but the death-rate was 3.90 per cent., as compared with 2.68 in the preceding year. The increased mortality was chiefly due to cholera, of which there were 82 cases with 40 deaths. In 20 jails the percentage of deaths to average strength was under 4 per cent.; in the following it was very high: Tanjore 13.50, Coimbatore District 11.74, Cuddapah 9.69, Mangalore 8.22, Madura 7.02. In the case of Tinnevely the rate fell from 15.16* in the previous year to 5.15.

The difference of mortality in favour of central jails is found to be gradually decreasing; this is partly owing to improvement in the sanitary condition of the district jails, but also to the increasing age of prisoners in the central jails, and to other circumstances.

As had been the case in former years, more than half the whole number of deaths occurred during the first year of prison life.

Bombay.

Throughout the Bombay Presidency the jail accommodation was considerably increased, although it still remained in many cases faulty and inadequate. The death-rate was 3.3 per cent. as compared with 2.3 in 1874. Taking into account the general unhealthiness of the year, the jails do not contrast unfavourably with the free population. Those in Sind maintained their high rate of mortality; while the percentage to strength was in the Presidency proper only 2.2, in Sind it was 6.8. The prisons in the city of Bombay were exceptionally healthy. At Yerrowda there was much sickness, chiefly from fever of a mild type, but a low death-rate.

Punjab.

The general death-rate in Punjab prisons was 3.19 per cent. of the daily average strength. The death-rate in towns was 40 per 1,000; and as among the free population many deaths escape registration, which cannot be the case in jails, the comparison is particularly favourable to the latter.

Although, however, the mortality was less, there was more sickness than in the preceding year. This was caused principally by intermittent fever. The most fatal diseases were bowel complaints and remittent and continued fevers. Cholera was confined to four jails, and occasioned only 30 admissions to hospital. A very fatal malady in some prisons was pneumonia, of a special character, and considered by many medical officers to be distinctly contagious.

* This figure includes all classes of prisoners; the ratio given in last year's Report (16.65) related to convicts only.

In last year's Report (p. 11) five jails were mentioned as having specially high death rates. Three of these showed in 1875 a great improvement, viz. :—

	1874.	1875.
Rawulpindee - - - - -	8·84	3·11
Delhi - - - - -	8·81	3·07
Kohat - - - - -	5·61	0·69

At Bannu the death-rate, which in 1874 was 13·38, fell (certain deaths from accident not being taken into account) to 8·77. Four of the deaths were due to typhus, or a disease very analogous to it, which was endemic in the Bannu valley. It is hoped that, after the completion of a new jail at this place, fever will be less frequent among the prisoners.

The ratio of mortality at the Lahore central jail was 5·95, as compared with 5·39 in 1874. The two most important causes of death were diseases of the bowels and pneumonia. Up to the year under report this prison was surrounded by a ditch some 12 or 14 feet in depth, which received the drainage, an arrangement which manifestly endangered the purity of the water-supply. The Inspector General of Prisons made arrangements for filling up this ditch and providing otherwise for the disposal of the drainage, so removing a serious source of risk to the health of the jail.

There was a high mortality (10·94 per cent.) in the Female Penitentiary at Lahore, for which no reason is assigned.

The Peshawur jail, which was formerly notorious for its unhealthiness, held a very good position both in 1874 and 1875; in the latter year the death-rate was only 1·56 per cent.

The year was, on the whole, marked by a considerable improvement in the health of prisoners in the North-West Provinces, and that notwithstanding the prevalence of cholera in the country, and the overcrowded state of many of the buildings. The average death-rate was 2·7 per cent. of strength. In the last Report (p. 12.) eight jails were noted as showing death-rates over 5 per cent.; in 1875 the rates in these jails were as follow :—

	1874.	1875.
Goruckpore - - - - -	20·14	5·35
Meerut Central - - - - -	12·83	5·40
Bustee - - - - -	10·93	1·96
Boolundshuhr - - - - -	9·28	2·32
Jounpore - - - - -	7·15	4·88
Banda - - - - -	6·04	8·12
Jhansi - - - - -	5·68	5·17
Meerut District - - - - -	5·59	5·10

Of other jails the following showed high death-rates in 1875 :—

	1874.	1875.
Bareilly Central - - - - -	4·92	5·34
Orai - - - - -	1·15	5·08
Saharunpore - - - - -	0·72	4·86
Moradabad - - - - -	0·96	4·83
Humeerpore - - - - -	4·83	4·57
Cawnpore - - - - -	2·19	4·27

The improvement in the two Meerut jails and in that of Goruckpore is especially satisfactory, as they for some years past had been notorious for unhealthiness.

The Banda jail has suffered much from constant change of superintendents, and, it is believed, from their want of acquaintance (they having been Madras Officers) with the customs and habits of the natives of the province; but new arrangements have been made under which it is hoped that matters will improve.

The Bareilly jail remained unhealthy. It is noticed that in the Bareilly prisons, as compared with others, the mortality continues at a high rate amongst prisoners who can no longer be regarded as new admissions. In the Goruckpore and Meerut jails, which receive a notoriously unhealthy population, the mortality rises as high as 7·7 and

8·6 per cent. during the first six months of imprisonment, and diminishes rapidly after the prisoners have been two years in jail; at Bareilly, on the contrary, the mortality increases with length of imprisonment. One condition believed by the Inspector-General to militate against the health of the prisoners was the continued and excessive labour of individual gangs on the building works; this, he stated, would be altered in future, while every effort would be made to remove any other preventable causes of mortality.

The high death-rate at Moradabad was an unusual occurrence. Of 19 fatal cases 10 had entered in bad health, 6 were admitted in indifferent health, and 3 only in good health. Two men were cut off by cholera, and the health of the prisoners was probably affected generally by the same conditions as served to cause the extreme prevalence of bowel complaints among the free population.

The death-rate in the Cawnpore jail was especially unsatisfactory, as 11 of the 18 fatal cases were due to dysentery or diarrhoea. The health of the prisoners on admission was worse than in previous years; of the 18 who died 14 were admitted in bad or indifferent health.

Oude. The condition of health in the prisons of Oude was even more favourable than it had been in 1874, the death-rate being only 1·4 per cent. of the average jail population. Although cholera was epidemic throughout the province, the jails enjoyed a remarkable immunity from the disease. In one only, that at Fyzabad, was there any approach to an outbreak; here 7 cases occurred in the month of November, of which 5 ended fatally.

Central Provinces. The year was comparatively a healthy one for the jails of the Central Provinces. The average ratio of admissions to hospital fell from 113·08 to 97 per cent.; and the death-rate from 3·68 to 3·30, or, not including cholera (which was absent in 1874), to 2·85. Cholera occasioned 15 deaths, occurring at Raipore, Hoshungabad, Bilaspur, and Mandla.

Three jails were specially noticed for their unhealthiness in the last Report (p. 12). Of these it was reported in 1875 that the general health of the prisoners at Jubbulpore was not good, although the death-rate was only 2·82 per cent.; that at Raipore there was general improvement; while at Nagpore the health was better than it had been for the past five years, owing, it was believed, to a favourable season and to the liberal supply of vegetables.

Berar. The report on the health of the jail population in Berar was very satisfactory. Notwithstanding that a severe cholera epidemic ran a course of seven months in the province, the disease did not appear in any jail with the one exception of Akola, in which towards the end of the epidemic there were six cases, five of them being fatal. The total proportion of deaths from all causes was 2·3 per cent. of the average jail population, against 4·6 per cent. in 1874. The healthiness of the convicts is advanced as a proof of the good conservancy and other arrangements maintained within the jails.

British Burma. Every attention was paid in British Burma to the sanitary state of the prisons. Conservancy arrangements under the dry-earth system were everywhere unexceptionable. The food and clothing were good and sufficient, and the water-supply generally wholesome and abundant. There was also, on the whole, ample accommodation for the prisoners. On the latter point the Sanitary Commissioner observes: "They" (the jails) "are in most instances built entirely of teak timber, the floors being raised on posts from 12 to 14 feet above the surface of the enclosures, with ample provision for ventilation in the shape of iron-barred doors and windows, side and ridge ventilators; it might be thought that under such conditions a small amount of overcrowding could be borne for a short time with impunity, but experience has shown that, no matter how good the ventilation may be in such jails, any amount of floor space under 36 superficial feet per prisoner is insufficient for the maintenance of health."

The death-rate fell from 2·98 to 2·35 per cent. of average strength. The improvement was most marked in the case of the Thyetmyo jail, in which there were only 3 deaths, as compared with 13 during the previous year.

There were only 5 deaths from cholera. Cases of fever diminished from 773 to 697, but the deaths from this cause increased from 4 to 8, three fatal cases of enteric fever having occurred in the Rangoon jail. This jail had always been very clean, and the food good, but the water-supply from the wells was not good, and, pending the decision of the question of supplying the town with water conveyed in pipes from a pure source at a distance, it has not been thought expedient to go to great expense in providing another source of supply for the jail.

Admissions from ulcers and boils showed an increase from 400 to 471; but the deaths decreased from 13 to 5, of which four occurred in the Rangoon jail. In the previous year there had been 12 deaths from hospital gangrene supervening upon ulcers in this

jail; the decrease in the number of fatal cases was attributed to the better quality of the vegetables. Very fine hospitals have been built inside a new inclosure of the Rangoon jail, and when the sick have been moved into them it is hoped that cases of hospital gangrene will cease: the old hospital is a wooden building, and so low that it cannot be kept clean underneath.

It is always found in British Burma that mortality decreases as length of residence in jail increases; the death-rate among under-trial prisoners in 1875 was 6·61 last year, as compared with 1·91 per cent. amongst convicted prisoners who had been more than 7 years in jail. The explanation of this fact given by the Inspector-General (which, however, the Chief Commissioner thinks "scarcely exhaustive") is that prisoners become accustomed to the restraints of prison life; they are freed from many temptations and means of committing excesses, and lead healthy lives; on the other hand, on first admission to jail opium eaters or smokers are suddenly deprived of their accustomed stimulants, and an abrupt change is made in their mode of life.

The number of deaths in the jails of Mysore amounted to 57, as compared with 38 in Mysore. 1874, and 27 in 1873. The ratio to average strength was 3·4 per cent. The increase was entirely confined to the Mysore jail. From anæmia or general debility there were 17 deaths, and from cholera 21.

The health of prisoners in Coorg was better than in the previous year, in consequence, Coorg. it is assumed, of the fact that during the monsoon months they were all removed from Mercara and kept in confinement at Fraserpet, and also owing to somewhat better accommodation in the jail.

V.—VACCINATION.

Bengal.

It is conclusively shown in the Sanitary Commissioner's Report that the mortality from small-pox in Bengal was highest in the towns and districts in which inoculation was practised, and was lowest where the Act prohibiting inoculation was in operation.

The practice of inoculation is stated to be hedged round by religious rites and ceremonies rendered sacred by the practice of ages. Again, inoculators from other parts, knowing how the minds of the people are disposed, step in and supplant the ex-inoculators in the villages where their forefathers have practised before them, and as a consequence the ex-inoculators are compelled to revert to the old system rather than suffer in their means of livelihood.

In the province of Bengal there were 988,858 persons vaccinated, being an increase of 29,185; in some circles the increase was considerable, while in others there was a marked falling off. The total was vastly less than that required for the protection of the population; the results achieved, however, in the opinion of the Government of Bengal, continue to afford just grounds for encouragement. In dispensary vaccination there was a great decline, which the Government viewed with dissatisfaction, as it is the duty of every medical officer in charge of a dispensary to promote vaccination. There is stated to have been less difficulty than formerly in persuading the people to accept vaccination.

There was a slight improvement in the number of females vaccinated. On the other hand, in the number of infants there was a falling off; the parents are said to be prejudiced from their experience of the risks of inoculation.

The ratio of success in primary cases was 97·2 per cent., against 96·53 in the preceding year. In the Calcutta, Eastern Bengal, and Metropolitan circles it was over 99 per cent.

The comparatively small interest shown in the matter by municipalities attracted the special attention of Government. There was also an unsatisfactory diminution of local contributions.

The system of concentration mentioned in the last Report (p. 14) is stated by the Bengal Government to have worked well. Under this system, when a district has been once gone over and thoroughly protected by the circle establishments, it is to be made over to the exclusive care of the civil surgeon for the maintenance of vaccination in it. In the carrying out of this change, however, the Government of India have urged the importance of proceeding very cautiously. They would regret to see the work of vaccination removed in any district from the special agency which already exists, not only before the large majority of the population are, in the full meaning of the term, actually protected, but also, until vaccination has become so thoroughly understood and popular that the people are willing to pay for it. Dr. Cunningham considers that vaccination will be greatly retarded by this measure.

Madras.

The report on vaccination in the Madras Presidency for 1875-6 is very incomplete, in consequence, it is alleged, of the transition state of the department (*see* Vol. VIII., p. 28). There was a considerable falling off both in the number of operations and in the ratio of success; the former was 381,412, and the latter 93·89 per cent. The prevalence of cholera is said to indispose the people to submit themselves or their children to vaccination; while further the employment of vaccinators in many districts as distributors of cholera medicines appears to have interfered with their proper work.

In the town of Madras there was an extraordinary falling off in vaccination work; 80 per cent. of the decrease was in the case of Hindoos. It occurred almost entirely among adults and children above a year old. The explanation offered was, firstly, the reduction of batta, and secondly, the great prevalence of sickness. The working of the department was also not so satisfactory; only 39·66 per cent. of the cases were ascertained to be successful, as compared with 72·34 per cent. in 1874-5.

Bombay.

Vaccination in the Bombay Presidency was considerably extended, and at a comparatively less cost than in any of the seven preceding years. The number of operations was 808,353. There were 22,573 more infantile vaccinations than in 1874-5; the whole of the increase (18,822) in primary cases having been among infants. The percentage of success in primary operations was 97.

Considerable progress was shown in Kutch, and there was promise of a still further extension.

The epidemic of small-pox in the city of Bombay in the beginning of 1876 (*see* p. 12) gave a great stimulus to vaccination, the operations during the first three months of the year having numbered 25,200, against an average of 4,343 in the corresponding periods of the five preceding years. It also drew the attention of Government to the need of compulsory vaccination, and a Bill for this purpose was prepared, which it was expected would meet with the support and approval of intelligent public opinion. This Bill has since become law as Bombay Act I. of 1877.

The total number of vaccinations performed in the Punjab during 1875-6 was 440,394, which showed a considerable falling off. In operations by the provincial establishment there was a decrease of 71,428; and in those by dispensary establishments of 2,016. No reasons satisfactory to the Local Government are assigned for this decrease of work.

The general percentage of successful cases is given as 94·84, but it is considered that this encouraging figure is open to correction. In one case the returns were found to have been deliberately concocted.

There were 22,274 vaccinations performed by men employed by Native Chiefs. The Maharajah of Cashmere consented to the work being carried on in certain parts of his dominions; and the Rajahs of Bussahir and Bhagat set an excellent example in affording assistance and allowing their children to be operated on.

Although opposition was generally diminishing, it was very strong in some parts. In the Delhi district it was frequently met with, but was overcome. In the large town of Panipat the people had formerly been violently opposed, but, through the able assistance of the tahsildar and the municipal committee, over 1,000 children were vaccinated, a good many of whom were Rajpoots. In the city of Kurnool nothing could be done for several days, but eventually about 600 children were operated on; here some of the members of the committee showed a very bad example by sending their families away. In many parts of the Umballa district the vaccinators were gladly welcomed. There was decided improvement in the district of Umritsur; in the city some members of the committee gave excellent help, while others were either indifferent or opposed; indeed, out of 36 only 5 took any interest in the work. Much opposition was encountered in the Ferozepore district, chiefly where the Sikh element predominated. In Peshawur city the work proceeded far more satisfactorily than formerly.

In the districts south of the Sutlej, where the Hindoo element greatly preponderates in the population, the prejudice against vaccination is very strong, and there the mortality from small-pox continued great. In the district of Gurgaon, in which Sitla, the goddess of small-pox, has a famous temple, no less than 2,741 small-pox deaths were registered. The Mussulman district of Peshawur also suffered severely; 1,018 deaths were registered in it. In Jullundur, Gurdaspur, and other districts the people have become so sensible of the advantages of vaccination that it is not uncommon for them to petition the authorities to send vaccinators for their children. In these districts the small-pox mortality was trifling.

The Superintendent-General in the North-West Provinces observes that the people have to pass through three stages upon the introduction of vaccination; the first, that of terror, when the mothers hide their children in the fields on the approach of the vaccinator; the second, that of apathy or mild dislike; the third, that of a belief in its efficacy. Kumaon perhaps may be said to have arrived at the third stage; Rohilkund to be passing into it; and the other three circles to be still in the second stage. The first stage, he thinks, has been finally left behind everywhere.

In 1874-75, the number of vaccinators in the province was 401, and the number of persons vaccinated was 494,928. In 1875-76, the number of vaccinators was 453, and they performed 529,207 operations, being an increase of 34,279. It is satisfactory to notice that the increase occurred chiefly among the high-caste Hindoos. Of the total operations 486,377 were primary, and 42,830 secondary; almost the whole of the latter were performed in Kumaon.

The percentage of success in primary cases was 90·24, against 87·64 in 1874-5.

The number of children vaccinated below one year of age was 140,109. Assuming 90·24 per cent. of these cases to have been successful, then 10·54 of the children born were successfully vaccinated. Much therefore yet remains to be done.

Only in the three districts of Dehra Doon, Kumaon, and Gurhwal can a sensible impression be said to have been made on the inroad of small-pox.

Municipal vaccinators, as usual, accomplished the least work, although there was much talk about the benefits of vaccination and the philanthropy of the British Government.

Oude. In Oude the number of operations was 27,656; and the ratio of success 84·47 per cent. The natives are reported to be thoroughly opposed, and their minds do not appear to be becoming more enlightened in the matter.

With regard to vaccination in Oude the Government of India remark: "The work makes no advance, and apparently no effort is made in the matter. It would appear that the vaccinators are left to do very much what they like, that the supervision which the civil surgeons exercise over them is merely nominal, and that the Sanitary Commissioner has little or no control over the proceedings of either."

Central Provinces. The number of operations in the Central Provinces was 222,633, being 23 per cent. above the number of the previous year. The primary cases amounted to 211,402, and among these the ratio of success averaged 95 per cent. The high ratio of success in secondary cases (71·4 per cent.) appeared to show that a considerable portion of the adult population was not protected.

The effect of vaccination in reducing the mortality from small-pox was evident in the districts of Betul, Chindwara, Seoni and Sumbulpore. In Nagpore also, although the vaccination rate for five years was comparatively low, operations had been carried on for a longer series of years than in other districts, and the population was to a great extent protected when the epidemic fell with extreme severity on the districts of Nursingpore and Damoh, in which very little vaccination work had been done.

Berar. The vaccinations in the Assigned Districts amounted to 48,658 cases, against 42,949 in 1874-5.

British Burma. The year showed some progress in British Burma in regard to vaccination, but not such (the Chief Commissioner observes) as might well have been achieved had ordinary diligence and activity been exercised. The number of operations was 24,381, and the percentage of success 82·49. If the Rangoon jail (in which most of the operations performed were on adults who had previously been inoculated or vaccinated), the Hill Tracts, and the military hospitals be excluded, the percentage would stand at 83·89, the highest yet attained in Burma.

The people of Burma have a very great prejudice against inoculating or vaccinating infants; children under one year old are seldom or never inoculated, although, on persuasion, they are allowed to be vaccinated. There were altogether only 3,168 operated upon under one year old during 1875. Against vaccination itself they have no deep seated prejudice, but they regard it as a weak form of inoculation, and are not satisfied when they see that it is not followed by vesicles scattered over the body, but that the eruption is confined to the points of insertion. The inoculators of course persuade them that it is not equally efficacious, because, if vaccination *gratis* became general, their fees would cease; and their emoluments are chiefly derived from the after treatment of the disease which they originate.

Rajpootana. Of 103,453 vaccinations in Rajpootana, 87,509 were performed in Native and 15,944 in British territory,—in the latter case showing a considerable increase. The percentage of success generally was 88·40; in Ajmere and Mhairwarra it was 81·69, being not so good as in the preceding year.

Vaccination in Rajpootana is said to be simply a matter of supervision and money, for there is no deep antipathy to it among the people.

Mysore. In Mysore the number vaccinated was 98,848, and the percentage of success was 89·17.

VI.—MEDICAL INSTITUTIONS.

Civil Hospitals and Dispensaries.

The number of charitable hospitals and dispensaries in Lower Bengal at the close of 1875 was 207. Two were closed, and six new ones opened, during the year. These figures do not include the temporary institutions in the Burdwan, Beerbhoom, and Midnapore districts.

The numbers of in-patients and out-patients treated, as far as they had been ascertained, were 22,009 and 698,730, respectively, as compared with 23,842, and 636,289 in 1874. The figures for 1875 are, however, in fact higher, the returns for several dispensaries not having been received in time for incorporation.

Of in-patients treated, 16·89 per cent. died, and 70·26 per cent. were cured or relieved. These results vary little from year to year.

The advantages afforded in the medical schools and colleges of Bengal to those studying medicine are stated to be gradually attracting a superior class of students, which will have a favourable effect on the future management and usefulness of dispensaries. The institutions appear to be steadily growing in favour with the people.

The proportion of income derived from local funds increased from 19·93 to 27·82 per cent. The subscriptions from Europeans rose from 2,386% to 2,523%, while those from Natives fell from 10,833% to 10,569%. The financial position of the institutions generally was very satisfactory.

The following statement compares the attendance and death-rates at the medical institutions of Calcutta for 1874 and 1875:—

INSTITUTIONS.	1874.				1875.			
	PERSONS TREATED.			Died per 1,000 of treated.	PERSONS TREATED.			Died per 1,000 of treated.
	In-door.	Out-door.	Total.		In-door.	Out-door.	Total.	
1. Medical College Hospital - -	4,349	45,199	49,548	108·3	4,456	45,374	49,830	134·20
2. General Hospital - -	2,826	1,107	3,933	49·5	3,234	9,544	12,778	65·24
3. Mayo Hospital and Dispensaries -	1,004	155,611	156,615	137·4	2,006	191,759	193,765	117·14
4. Campbell Hospital - -	7,558	—	7,558	251·6	7,782	—	7,782	280·77
5. Municipal Police Hospital - -	2,341	—	2,341	24·7	2,880	—	2,880	22·56
Total Calcutta Hospitals -	18,078	201,917	219,995	—	20,358	246,677	267,035	—
6. North Suburban Hospital - -	711	—	711	174·4	625	—	625	217·60
7. Sumbhoo Nath Pundit Dispensary -	—	9,608	9,608	—	—	9,907	9,907	—
8. Alipore Dispensary - -	130	6,092	6,222	276·9	119	5,968	6,087	319·32
9. Aratoon Apcar Dispensary - -	—	8,858	8,858	—	—	9,539	9,539	—
10. Howrah General Hospital - -	2,002	15,631	17,633	163·8	2,245	18,024	20,269	154·56
Total Suburban Hospitals -	2,843	40,189	43,032	—	2,989	43,438	46,427	—
Grand Total -	20,921	242,106	263,027	—	23,347	290,115	313,462	—

There was thus a very great increase in the number of patients treated during 1875, the excess being 50,435 patients, or nearly 20 per cent. over the number treated in 1874. These figures, in the absence of any epidemic disease or unusual sickness, are the more satisfactory as they demonstrate that the classes for whose benefit the hospitals and dispensaries were opened are not slow to avail themselves of the medical and surgical advice obtainable at them.

The average death-rate among in-patients was 167·28, or, excluding cholera, 149·52 per 1,000. The latter figure is higher than for any year since 1869. The death-rate of the European patients was lower in all the hospitals than in 1874, with the exception of the Presidency General Hospital, in which the rate was higher by 14·08 per 1,000. The excessive mortality at some hospitals is ascribed to the number of moribund cases taken in.

The total number of admissions for cholera was 787, against an average of 493 during the five preceding years; and of these 405 died.

Of 75 patients received in the Presidency General Hospital, no less than 60 came from the shipping, and though the total number of cholera cases received from the riverside decreased from 143 in 1874 to 104 in 1875, it would seem that the sanitary condition of the port is still far from satisfactory. The figures appear to indicate that those parts of the river are most unhealthy which come directly under the influence of the sewage discharge from the Fort. The state of the hospital and dispensary buildings was generally good, and all sanitary details inside them were closely attended to.

There was a decrease in the number of deaths in the Medical College Hospital ascribed to "hospitalism." In 1875 these amounted to 8, or 25·80 per cent. of those who died after operation, whereas the average of the six years ending with 1869 was 31·06 per cent. The sanitary condition of this hospital was much improved. New furniture and a substantial addition to the hospital equipment were granted by Government. Improvements were made in the bath-rooms, lavatories, and latrines. By the introduction of the municipal system of drainage the hospital was brought into communication with the neighbouring sewer. Sinks and urinals were trapped, and the ground to the west of the hospital was railed in. Other contemplated improvements, when completed, will prove of the highest sanitary value by enlarging the compound and permitting the freest circulation of air in all directions.

Dr. Beatson speaks in the highest terms of the ability, zeal, and humanity displayed in the discharge of their duties by the medical staff of the several institutions.

Bombay.

In the civil hospitals of Bombay there were treated 24,081 indoor and 218,008 outdoor patients; if re-admissions are counted in both years, the increase in the former class of patients was 1,511, and in the latter 14,402. At the dispensaries the total numbers treated were 5,605 and 552,014, showing increases of 96 and 42,748. All the officers employed in charge of these institutions are reported to have worked well and zealously.

There were more admissions at the hospitals for syphilis than for any other cause by upwards of 50 per cent. Of the total number of dispensary patients those treated for malarious fevers constituted 20·11 per cent.; in the Poona Division the percentage was 31·34.

In contributions for dispensaries from local funds there was a creditable increase, as also in private subscriptions; but municipal contributions showed a considerable falling off.

While the statistics show that 1875-6 was a very unhealthy year, they also prove that the dispensaries did excellent and useful work, and were much appreciated by the sick poor.

Punjab.

The statistics for the Punjab for several years past show a steadily increasing appreciation of dispensaries, and confidence in the European method of treating disease. The number of institutions rose in 1875 from 136 to 150; in 1874 there had been an increase of 16. The above are exclusive of 18 dispensaries supported by municipalities or by purely local resources, and of the Mayo General Hospital at Lahore. The attendance at the whole of the institutions aggregated 1,037,835, being an increase of 143,568, and this increase was among all classes, indoor and outdoor, males and females.

The contributions from all sources increased; those from municipalities by 4,238%, from Europeans by 119%, and from natives by 186%. Towards the completion of new wards in the Delhi dispensary 430% were contributed by the native residents of that city; of this, 200% was received from the representative of one gentleman who had bequeathed a large sum to be expended on objects of charity. This dispensary also receives liberal support from a wealthy citizen, Lala Mehr Chand, who supplies food and country medicines to a certain number of indoor patients.

North-West Provinces.

In the North-West Provinces there were, at the close of 1875, 154 dispensaries, including the European hospital. The outdoor patients numbered 762,551, and the indoor 23,168, being in the former case an increase of 20,887, and in the latter a decrease of 773.

Municipalities contributed 775% less than in the previous year; European subscriptions also declined by 127%; and native subscriptions by 537%.

The whole question of Government grants-in-aid has been engaging the attention of the Local Government, the system laid down in 1863-4 having been in a great measure departed from in practice. According to that system the assistance given by

Government was to be "so regulated as not greatly to exceed the income derived from local sources." In 1875 the Government expenditure was 15,288%. The total of local receipts was 11,805%, of which 4,037% was money raised by municipal taxation, which, the Government observe, can only be considered as a subscription by a very liberal interpretation of the meaning of that term. It has accordingly been intimated that the required local income for each class of dispensary should in future be fixed at an amount which will really cover half the expenditure.

Another principle originally laid down was that "each institution, whether large or small, must stand or fall upon its own resources." By the method which has come into use of lumping together all the subscriptions of a district, money subscribed in support of really popular and useful institutions has been made the ground for demanding aid from Government for institutions which are neither useful nor popular. If, Sir John Strachey observes, the result of a stricter adherence to the rule in future is that many branch dispensaries are closed, he will not regret it, as it is too often the case that these institutions, under the management of men possessing no really competent knowledge, are worth little or nothing, and that the money expended on them is thrown away. If, on the other hand, by closing several branch dispensaries, especially in the neighbourhood of any important town, it were found possible to secure the local contribution necessary for the opening of a sudder dispensary under a trained medical man, the Lieutenant-Governor would be prepared to give to such a measure all possible aid and encouragement.

At the close of 1875 there were 48 dispensaries in Oude, being an increase of three. Oude. There was a satisfactory advance in the number of patients from 207,547 to 243,045; of this number 236,924 were outdoor patients. These institutions are shown to be gradually gaining favour with the people. That their popularity depends in a great measure on the demeanour of the medical practitioners was illustrated in the case of the Sitapur dispensary, which stood low in the scale of usefulness, owing to the brusque manner of the native assistant-surgeon, until, during the last three months of 1875, it rose, under the medical charge of another officer, to head the list; the total applications for relief during 1875 were 11,186, against 7,743 in 1874.

Two additional branch dispensaries are reported to have been opened in the Central Provinces. The general attendance continued to be satisfactory; there was an increase in out-patients of 18,095; with greater demands on them, the expenditure on account of dispensaries was smaller. Central Provinces.

The number of in-patients at Berar dispensaries increased from 912 to 1,215, which Berar. was mainly due to the call for treatment by cholera-stricken patients. The out-patients numbered 76,103, an increase of 18 per cent.

A dispensary was opened during the year in the new district of Thonkwa, making altogether 18 in British Burma. The number of indoor patients rose from 5,649 to 5,980, and of outdoor from 53,323 to 58,750. The steady increase in attendance is due, not to increasing unhealthiness of the country, but to the growing confidence of the people in the efficacy of European medicines. British Burma.

The progress of the dispensary in the Northern Arakan Hill Tracts was most satisfactory, the patients having increased from 404 to 1,441.

In the dispensaries of Rajpootana there were treated 3,941 indoor patients, and in the jails 5,789, amounting together to 9,730. Outdoor patients numbered 236,441. The grand total was thus 246,171; of which number 25,068 were treated in British territory, namely, 947 indoor and 24,121 outdoor. Rajpootana.

In Jeypore the year was signalised by the completion of the Mayo Hospital, which was formally opened by the Viceroy on the 8th December 1875. The Medical Officer to the Maharajah (Dr. Husband) says that this is an additional proof how deep and real an interest His Highness takes in the institutions under his government. He had received the Maharajah's instructions to make every arrangement for the comfort of the patients, and to provide the hospital with all that was newest and best in the way of surgical instruments. In view of concentrating the work as much as possible at this hospital, four dispensaries were closed towards the end of the year.

The in-patients in Mysore dispensaries numbered 3,345, and the out-patients 115,648; Mysore. showing increases of 364 and 10,098 respectively. The institutions were resorted to by all classes of both sexes.

Lock Hospitals.

Bengal
Presidency.

Dr. Cuninghame is strongly impressed with the apparent failure of the lock hospital system in diminishing venereal disease among British soldiers in India, and observes that it is very evident either that the women who are the source of mischief escape detection, or that registered women, although apparently healthy, are yet capable of propagating disease. The stations with lock hospitals have, he states, established no decided superiority over those without them. Of 43 stations with hospitals, disease during 1875 decreased at 17, was stationary at 1, and increased at the remaining 25. Looking to the various forms of disease, the general result was very unsatisfactory in the Army of Bengal, where primary syphilis increased from 49 cases per 1,000 in 1873, and 66 in 1874, to 71 in 1875. In the Madras Army a considerable decrease of primary syphilis was balanced by an equally large increase of gonorrhoea. The statistics for Bombay were more favourable.

Bengal
Province.

At Dinapore, while the rules appear to have been somewhat more strictly enforced, there was, nevertheless, an increase of disease among the European troops. This is explained to have been due to the withdrawal from the regiment of a large number of invalid and old soldiers. The report, however, shows that the work of registration is in a very defective state. A great deal of the disease appears to be contracted from native women, employed either as servants in the families of European soldiers, or as coolies about the barracks, and also from Eurasian women living in the bazaar; and it is even asserted by the magistrate that married women of the regiments practise prostitution, and spread disease among the soldiers. Great difficulty is experienced from the refusal by soldiers to give any information or assistance in detecting the diseased women. The question of exercising better control over the native female servants was taken up by the cantonment committee, and a formal representation on the subject was made to the commanding officers; and the Local Government gave directions that the magistrate should take proper steps to have all persons brought on the register whom there might be reason to suspect of receiving visits from European soldiers. The want of sufficient strictness in the enforcement of the rules, and the consequent unsatisfactory results, "constitute," the Lieutenant-Governor observes, "a degree of failure which the Government cannot tolerate any longer."

At Barrackpore the results were more favourable than those of the previous year; there was a large decrease in the number of cases among the troops. There was also improvement shown at the cantonments of Dum Dum, Hazareebagh, and Darjeeling; at the latter it is said to have been due more to the strict supervision exercised over the soldiers than to improved working of the rules.

Punjab.

From the statistics of the working of lock hospitals in the military cantonments of the Punjab it appears that, although there was a diminution both in the total amount of disease and in the virulence of its character, the results were not so satisfactory as might be desired. Out of 16 cantonments all but 3 showed an increase of disease as compared with 1874, and in some of them the increase was very large. The Government of India, while commenting unfavourably on these results, admitted that a single unsuspected woman may do an infinity of harm, and upset the most careful calculations.

North-West
Provinces.

In reviewing the lock hospital reports of the North-West Provinces for 1875, the Government of India state their opinion that the reports are not as favourable as could be desired. Very few unregistered women were brought on the registers, and but little seems to have been done to remedy the evil of unlicensed prostitution.

The Sanitary Commissioner, Mr. Planck, while admitting, and indeed forcibly pointing out, the potency of this source of mischief, gives at the same time a very favourable account of the beneficial action of the lock hospital system itself. There is reported to have been during the year a considerable improvement in the working of the system; there was a better average of attendance for examination, and more disease was discovered and remedied among the registered women. The mean ratio of venereal admissions among the soldiers was 149·7 per 1,000, against 201·2 in 1874; and the disease in 1875 was comparatively mild in character, secondary cases being rare. These satisfactory results Mr. Planck considers must be mainly attributed to the establishment of lock hospitals; and he thinks that the evil may, by perseverance, be soon brought within the limits of reasonable expectation. Unregistered intercourse, he thinks, could be prevented by a combined action of the military and civil authorities. At the Meerut station the very existence of a cantonment sub-committee was apparently unknown to the medical officer in charge of the lock hospital.

At the Cawnpore hospital the monthly average of women presented for examination was 187 in 1875, against 172 in 1874; the cases of disease discovered numbered 660, against 465; the daily average number of women in hospital was 66, against 48. The ratio of venereal disease amongst the European soldiers at Cawnpore was 266.0 per 1,000 of strength in 1875, against 439.5 in 1874. The Sanitary Commissioner observes that, while probably all this gain of improved health to the European soldier was not due to the better working of the lock hospital system, it cannot be doubted that some considerable portion of it was due to that cause. The cantonment committee are of opinion that the improvement may be due to two causes: the restriction placed on soldiers visiting the city during the last nine months of the year (on account of cholera), and the segregation of the majority of the women registered in cantonments in quarters adjoining the lock hospital.

At Agra and Bareilly a considerable diminution of disease was reported; in the latter case, the medical officer thinks that the efforts made in this direction have been crowned with very great success. At Allahabad the number of registered women was steadily increasing. At Meerut the attendance of registered women was fairly good, but the number decreased; a sensible diminution of disease among the soldiers was, however, recorded. Disease was very prevalent at Benares; but a special effort made by the police to detect unregistered women was attended with great success.

During 1875 the lock hospital at Thyetmyo was transferred to the civil department, and there were thus in the Madras Presidency nine military and four civil institutions of this class. Madras and
British
Burma.

The following table shows the ratio per 1,000 of admissions to strength from all venereal complaints amongst the troops from 1871 to 1875:—

1871	-	-	173.75
1872	-	-	164.27
1873	-	-	149.81
1874	-	-	185.73
1875	-	-	193.22

Six of the stations where there were lock hospitals showed a decrease in admissions for syphilis as compared with 1874; at the other seven there was an increase. At all stations where there were no hospitals the disease showed a decided increase. The increase at some stations where the Act is in force was apparently due to the great prevalence of clandestine prostitution; "and could this," the Principal Medical Officer to the British Forces remarks, "be effectually prevented, there is every reason to believe " that inefficiency from this class of diseases would be very considerably reduced."

The Contagious Diseases Act is reported not to have worked well in Bangalore during 1875. Writing regarding the British troops, the medical officer mentions that "a police serjeant and two special constables are entrusted with the duty of serving summonses on " prostitutes who attend weekly on examination days, and also of prosecuting those who " fail to attend; but there appears to be no special arrangement for preventing un- " licensed prostitutes frequenting the lines, and it is said that numbers of these are in " the shape of ayahs, &c., attached to the married quarters." In this, as in other cantonments, the soldiers who are diseased give no assistance for the detection of the women with whom they have associated. The medical officers of all lock hospitals had been advised to obtain from the registered women the names of the unregistered who may be associating with Europeans; the names of twenty were thus reported at Bangalore, but only one of them was brought for inspection, and she was found to be sick. The medical officer remarks that the registration appears to extend only to the poor natives, East Indians, and Europeans, and that there were no convictions for carrying on prostitution without being registered; the result was that the number on the register was very small, and the amount of sickness very great. He considers that the rules on the whole are as good as can be with so deficient an Act, and he adds that, until it is made to apply to all prostitutes, there is little hope for much improvement. There has, he says, been an improvement in the working of the rules during the year, but constant vigilance is required. Everything is done now to try and get the police to carry out the Act in its entirety, but with such agents as native police, who are said to take a bribe of a few pies, it will ever be difficult.

At Bellary there was a considerable diminution in the number of soldiers treated as compared with the two previous years. Here again it is stated that registration is defective as not including the entire number who practise prostitution. It embraces only some of those who are notorious prostitutes, viz., those who consort with European soldiers, and a comparatively few caste women who consort with natives only. Many of the registered women fail to appear at the periodical examinations.

Similar complaints come from Cannanore and other stations. At Kamptee, on the other hand, the medical officer says that the working of the Act has been carefully attended to, and illustrates this by mentioning that, of 52 women brought before the magistrate charged with clandestine prostitution, 47 were found to be prostitutes, and were brought on the rolls; while in 1873, of 60 women so put forward, only 4 had been registered.

In addition to three hospitals in British Burma which are included among the above, there are four other purely civil institutions, and another has been established at Henzada, which, however, does not come under consideration for 1875. Of the whole of these seven institutions the Chief Commissioner remarks: "Generally the application of the rules has not been enforced with that energy and rigour which is necessary to justify the expense or affirm the principle of applying them at all. * * * *"

"At none of these places is there any claim for anything approaching perfection in registration. In Rangoon, where it is probably more extensive than elsewhere, it is admitted that there is a deal of unlicensed prostitution known to the authorities, but with which it is difficult to deal effectively. Whether this be deference to a degraded public opinion, or national moral degeneracy of the inhabitants, the Chief Commissioner cannot tolerate its continuance. It is useless applying rules of this nature with such patent facilities for evading them. Theoretical husbands in no way exempt women who prostitute themselves from the application of the law; and as it is found that a large, if not the largest, proportion of disease is contracted from creatures who rely on this plea, it behoves the officers on whom this disagreeable duty falls to take instant measures for the control of the evil. The registration at all places is badly conducted, and at Bassein and Thyetmyo extremely so."

A mass of papers has been received from the Government of Madras on the subject of the best measures to be adopted to check the spread of venereal disease among the European troops in that Presidency. Surgeon-General Gordon (Principal Medical Officer, British Forces) brings to notice the following important element in arriving at a conclusion as to the beneficial effect of the lock hospital system: "At some small stations there seem to be very few prostitutes, for the obvious reason that little profit is to be obtained; at these a lock hospital may not be required at all, or, if one exist, the admissions into it are few, as are also the admissions by venereal diseases among the troops. At a large station the conditions are altogether reversed, custom and money being alike plentiful, so are common women, so is disease; hence there is an obvious fallacy in the argument brought forward that, because at such and such places where lock hospitals exist disease is more prevalent than at such and such other places where they do not, therefore such establishments are useless."

The Madras Government, after carefully considering these papers, determined not to make any change at present in the existing system, further than to suggest to the Commander-in-Chief that a regimental police supervision might prevent much of the intercourse which takes place between soldiers and the female hangers-on of barracks and their neighbourhood. A recommendation by the Inspector-General of Police that an additional civil police establishment should be employed for detecting breaches of the Act was approved, and orders were passed for carrying it into effect. The Government expressed their belief that by a steady and discreet application of the means provided by the Act much may be done to decrease venereal disease among British troops.

The Army Sanitary Commission gather from the reports that to keep down clandestine prostitution "would require a degree of zeal and hourly watchfulness which is never likely to be carried out."

Lunatic Asylums.

Bengal.

The steady progressive increase in the asylum population of Bengal has attracted serious attention. Since 1868 the average yearly increase has been 62·5. The Government of India have issued instructions to the effect that probably many of those in confinement would be better with their friends, and that asylums should be reserved for criminal lunatics, lunatics who are absolutely dangerous, and those who, having no friends or belongings, may be in the acute stage, in which there may be the greatest hope of recovery. In the carrying out of these orders, the Government direct that care be taken to ascertain that harmless lunatics left in the charge of their friends are not maltreated or subjected to any objectionable restraint; while every facility will be given for the reception of such persons in asylums, provided the relatives are willing to pay for them such rates as will entirely cover all charges incurred on their behalf.

Measures have also been taken to provide increased accommodation. At Hazareebagh the district jail buildings have been utilised for a new asylum capable of receiving 300 patients.

During 1875, 384 patients were admitted into the several asylums, which was a considerably lower number than that of the previous year, and than the average of the past ten years. The admissions were apparently from the most impoverished and necessitous classes of the community; of the total, 79·42 per cent. were males.

There were altogether 127 deaths in the asylums during 1875, being at the rate of 11·27 per cent. of mean strength. In two of the institutions, those at Dacca and Dullunda, the death-rates were exceptionally heavy, namely, 15·63 and 15·82 respectively; in all others the rates were low. Bowel complaints were the principal cause of mortality, and phthisis contributed a large proportion. The latter appears in some cases to have been connected with overcrowding.

Reviewing the results of the year generally, the Surgeon-General remarks that they could hardly have afforded more positive evidence of the favourable conditions in which the insane under treatment have been placed, whether for the cure of their mental derangement by skilled attention to every detail, or for lessening the hardships of their sad lot by gentleness and kindness.

In the asylums of the Madras Presidency (three in number) the percentage of recoveries increased from 45·29 to 51·97, while the mortality decreased from 14·50 to 11·27, as compared with the preceding year. The mortality was lower than in any of the previous 10 years, except 1872-3. A comparatively small number of the inmates are females; this is probably owing to the social customs of the people. Madras.

At the Madras Asylum outdoor labour for the patients was largely resorted to with manifest advantage, and at the same time a great deal of useful work was done in the way of gardening, cleaning and sweeping the grounds, drawing water, and repairing roads, hedges, and drains. Various indoor industrial pursuits were also attempted, and the superintendent hoped to be more successful in these in future. The band of one of the corps in garrison was permitted to play in the asylum grounds once a fortnight, and some of the patients seemed to thoroughly enjoy the performance. The usual Christmas dinner was given; and, owing to the liberality of subscribers for this treat, the superintendent was able to add to the pleasures of the day by introducing jugglers, native dances, fireworks, and illuminations. The library referred to in the last Report was kept in good order, and various books were added to it during the year.

Similar remedial measures were also adopted at the other institutions.

There were five asylums in Bombay and Sind. The number of new admissions during the calendar year 1875 was 303; and of re-admissions 25; 228 were discharged, of whom 91 were cured; there were 78 deaths; and the inmates remaining at the close of the year numbered 568. Bombay.

The following remarks by the Bombay Health Officer relative to an outbreak of cholera in the Colaba asylum point out forcibly the internal defects of that institution:—

“ It would be impossible to find a more wretched, miserable, or degraded class of beings than the poor creatures who are confined in the Colaba Lunatic Asylum. Having been connected with the management of the asylum for a considerable time, I may be supposed to know something of the class of lunatics that are received, and the accommodation provided for them. * * * * The asylum is overcrowded. The accommodation is so scanty that a considerable number of the lunatics are confined in the verandahs at night, and, huddled together, sleep on the boards or bare flags. The smell that arises from a number of people jammed together in a confined space, from the fouling of the ground and of one another at night, is horrible; and the sight that is witnessed when the poor creatures are turned out in the morning is of the most revolting nature. The diet, though fairly liberal, is not sufficiently varied; and, partly owing to this cause, and to overcrowding, and to the want of amusement and of outdoor employment, the health of the lunatics is very low, and not nearly so robust as it ought to be. They are extremely prone and subject to diseases of a low type. The death-rate in 1875 from cholera was 34·4 per 1,000, from diarrhoea 11·4, from dysentery 11·4; and the total rate of mortality was as high as 157·8 per 1,000.”

It appears from the report for 1876 that some measures of a very partial nature were taken during that year to relieve the overcrowding in this asylum; and the whole subject was engaging the attention of the Bombay Government, who referred to the proper department the question of removing various sanitary defects in the building, while they expressed a decided conviction that another asylum must at the earliest opportunity be constructed to meet the serious want of accommodation.

Punjab.

The number of admissions at the Delhi asylum during 1875 was 42, or five more than in 1874. The numbers cured and improved were much below those of previous years, but no reason can be assigned for this fact. The death-rate was 12·85 per cent., rather higher than in 1874.

The health of the lunatics was, on the whole, good, and although cholera prevailed in the city and neighbourhood of the asylum from the beginning of May to the end of November, no case occurred in it.

The following account is given of the diversions supplied for the patients: "Every inducement is given to the lunatics to amuse themselves in any way they can, and for this purpose kites, toys, tom-toms, sittars, &c., are provided for those who care for them. The women have pet pigeons, rabbits, and lambs; swings are also erected for their amusement. On Sundays all are treated to either sweatmeats or fruits in their season. This treat is looked forward to by them, and in cases of misbehaviour it is withheld as a means of punishment."

The lunatics are freely indulged in tobacco at certain hours daily, and their friends are permitted to visit them as often as they wish. On the whole they are said to be as happy as their miserable state will allow.

No manufactures have been attempted, but the males were employed in gardening, in keeping the ridges and walks neat and trim, and in any other light labour they could be induced to turn their hands to. The women do a little spinning of cotton thread, &c.

Cleanliness and conservancy are reported to have been fairly looked after. While it is impossible that these should be so rigidly attended to as in a jail, owing to the extremely filthy and irregular habits of many of the inmates, both barracks and latrines are as far as possible kept clean and free from smell.

At the Lahore asylum there were 375 under treatment, against 373 in 1874; 120 were new cases admitted during the year; and of the total number 296 were males and 79 females.

Here too gardening is the chief occupation. There are three or four rooms for weaving common cloth, but all attempt to increase labour in this direction involves too much loss to Government.

The death-rate was 20·5 per cent., as compared with 11·2 in the preceding year. Cholera attacked the asylum on the 1st September; a single case on that date was followed by another on the 18th; and on the 26th the disease broke out with severity, there being, up to the 9th October, altogether 27 cases and 19 deaths. The whole of the inmates were removed to another locality, and the building was thoroughly cleansed and fumigated.

British
Burma.

The lunatic asylum at Rangoon is well reported of for efficiency. The population increased from 149 at the end of 1874 to 156 at the end of 1875. An increase is shown year by year, and is attributed entirely to increased activity in working the law, not to an increase of lunacy in the province. There were 11 deaths during the year; 19 patients were discharged wholly recovered, and 6 mentally improved. The number of old, feeble, and paralytic patients in the asylum precludes the hope of a low death-rate being maintained.

The water-supply is derived from three wells within the area, and is good and never fails. Every part of the institution is kept scrupulously clean, and the dry-earth system is effectually carried out.

The value of occupation and amusements in the successful treatment of insanity is well borne in mind at this asylum. It is stated that many of the articles in the workshops are excellent samples of skill. A beneficial and tranquillizing effect is produced on the patients by the efforts that have been made to render the surroundings more homelike and of more individual interest. The recreation ground, where the excited and violent male patients take exercise, and which was formerly a bare, uninteresting spot, was during the year carefully laid out, levelled and turfed, and the walks were planted with shrubs. The improvement in the demeanour of the patients attracted, it is said, the comment of all who were familiar with it.

Mysore.

At the Mysore asylum the male lunatics are principally employed in gardening, weaving, manufacture of pottery, and preparation of aloe fibre, and also in domestic duties such as washing, cooking, tailoring, &c.; while the females are engaged in grinding ragi, cleaning rice, and spinning wool. The value of their labour during 1875 was estimated at 139%. Trifling rewards in the shape of tobacco and betel are given to them for their encouragement, and native amusements are provided twice a month for their entertainment. The institution is conducted upon simple and humane principles. The asylum is a healthy one, and the health of the inmates is generally good.

Medical Schools.

The medical schools in Bengal were five in number, new schools at Dacca and Cuttack Bengal. having been opened during the year. Except in the English department in the Medical College, the instruction in all these schools is given in the vernacular. The Dacca school was well attended, and promised to be a very useful and popular institution. The Cuttack school is intended to supply a want which has for some time been felt, owing to the distance of Orissa from the higher educational institutions of Bengal. The total number of pupils in the medical schools was 1,255.

The reports of the Madras Medical College for the sessions 1874-5 and 1875-6 Madras. were very favourable. The success that attended two ex-students (British) in competing in England for the Indian Medical Service affords additional testimony to the sound teaching and training that have for so many years distinguished this college. It is however regretted that the advantages offered by the college do not draw a larger number of students. The insufficient knowledge of English possessed by the native pupils is another subject of regret.

The Madras University has instituted a new degree of Licentiate of Medicine and Surgery, which, from involving a less demand than the present degrees upon the time and previous education of the students, will, it is believed, attract a considerable number of candidates. Young men desirous of qualifying for the L.M. degree will have to undergo a course of professional training at a recognised school of medicine to extend over a period of four years, or else one year's training at a hospital or dispensary and three years at a medical school.

An important scheme instituted by Surgeon-General Balfour for training civil medical practitioners came into operation with the session 1875-6. Under this scheme classes are held at which youths receive the same instruction as that imparted to military students, and, on being declared qualified, they will join the Civil Subordinate Medical Department for employment under municipalities. The college had previously been almost exclusively an institution for supplying the Army with apothecaries and hospital assistants. Much advantage is looked for from the measure referred to, as a great deal remains to be done to place civil medical education in Madras on the level which it has reached in the other Presidencies.

The Principal of the Grant Medical College reported that the result of the past year Bombay. "will bear comparison with the most successful year of the 30 which have elapsed since the foundation of the institution." Fifty-nine freshmen were admitted to the college classes, which, added to the number left after the University examinations, brought the strength of the graduate and undergraduate classes up to 194—"a number unparalleled in the history of the college, and all the more remarkable seeing that the fees paid by a student amounted to Rs. 625 for the full curriculum." In the University examinations the proportion of successful candidates was larger than in any previous year.

An experiment which had been made in the North-West Provinces for the training North-West of female native doctors having been proved to be a failure, orders were given during the Provinces. year under report for the closing of the school established for that purpose at Bareilly. Dr. Corbyn, to whose exertions the existence of the school was due, himself pointed out in the following words the reasons for abandoning the attempt:—

"Another year's working of the school obliges me to confess that, while the European and Eurasian pupils have more than fulfilled my expectations, I feel more strongly than ever the obstacles in the way of utilising the native ones; not that they do not learn quickly and intelligently, for indeed their progress is remarkable, but when they are sufficiently educated to act independently, they do not seem to command the same confidence and respect that the European women do; native prejudices regarding the sex hamper them at every step. If they go out into the world unmarried, they are looked down upon, and all sorts of difficulties arise as to who they are to live with. On the other hand, if they are married, the chances are the husband will insist on their being entirely engaged on household duties, and will object to their pursuing the calling for which they have been fitting themselves."

Several dismissals took place during 1875-6 in the Bulrampur School for carelessness Oude. and inaptitude to learn the medical profession. The Principal says that, while greater strictness will have to be used in future in admitting candidates, it is not always easy to ascertain what a lad will turn out before he is tried.

The professor of medicine, &c., reports as follows :—

“ The subject of pathology appeared naturally very difficult to the boys, but I am glad to say they gradually began to feel an interest in the subject, and some of the students have made fair progress in understanding this most important subject. It will take them considerable time to acquire skill in the diagnoses of many complicated diseases, but a fair beginning has been made, and I hope that in after-life they will be able to take advantage of the knowledge obtained in the medical school. Most of the students showed anxiety to learn the treatment well without paying due attention to the theoretical part of the lectures delivered, but I lost no opportunity in impressing upon their minds the paramount importance of a thorough knowledge of the principles of medicine, and in showing them that the treatment of diseases cannot be properly made without understanding their nature. I hope I have succeeded in my efforts to impress this fact upon the minds of the advanced students. * * * *

“ It was extremely gratifying to me in observing that in the examinations held during the end of the session the students were fairly struggling on to obtain an accurate knowledge of the subject-matter of the lectures, and I hope from this for the very best results in most of the students when they begin to practise their profession.”

The following is from the report of the professor of anatomy :—

“ Considering the paramount importance of our bedside studies, and knowing how very dangerous little learning is, especially when it concerns the life and death of numbers of human beings, it was my special object to make the students ever attend very carefully to the clinical lessons they would derive in this the largest hospital in the province; but I am sorry that with all my energies during the past two years of their connexion with the hospital I have failed in my purpose, and among 22 boys I cannot pick up more than two or three who I can say have really availed themselves of the opportunities offered. The rest of the boys look upon their hospital attendance rather as a hardship, and think they would learn their profession better by looking at a stethoscope, or a test tube, or by hearing a description of their uses, than by carefully attending at the medical requirements of the sick.”

The Government of India, while regretting the facts above adverted to, observe that in Oude, as elsewhere, much depends on the chances the students have of prospering as medical men, and on this point there is as yet no experience to guide young men in that province.

On the whole, the Principal was not dissatisfied with the first batch of students who had just terminated their curriculum. Many of them came from illiterate classes. They were very imperfectly trained to start with, and they were therefore unacquainted with the simplest facts of science. They had not only to understand and remember innumerable facts in various branches of the complicated medical course, but also to learn and remember a vast number of new terms foreign to their own language.

The professors, he adds, did their duty with zeal, and spared no pains in teaching the students. They were three in number (besides the Principal himself), and all natives.

VII.—SANITATION.

Civil.

There was every promise of the new organization of the Bombay Health Department working well. A circular was issued by the Sanitary Commissioner for the general guidance of Health Officers; and Mr. Lumsdaine observes that, when the scheme is in working order, "there will in all directions be constantly moving over the face of the country a set of more or less trained observers, whose special duties it will be to inspect, advise, and report; and, whilst they look to local conditions, they will also turn their attention to the details of registration; so the outcome of the work cannot but be satisfactory."

Organization
of Health
Depart-
ments.

The employment of the vaccination establishments in general sanitary work in the Central Provinces (*see* last volume, p. 28) was kept in view during the year. They were found most useful in distributing medicines in the villages suffering from cholera, and in urging on the people attention to the precautions prescribed with a view to mitigating the ravages of the epidemic. The Sanitary Commissioner believes that, as the men become more trained to the work and gain the confidence of the people, the district vaccination establishments will every year be found more useful in this respect.

An Act (III. of 1876) was passed by the Bengal Government, which provides for the construction, maintenance, and regulation of canals for the supply, under payment, of water for irrigation purposes in the province; for the carrying out of drainage works, or removing obstructions to drainage, when such works or removals are necessary (among other reasons) to protect public health; for the construction of village channels; and for the punishment of persons who damage, alter, or obstruct any canal or drainage work, or corrupt or foul the water of any canal, &c.

Bengal.

Progress in the sanitary improvement of towns in Bengal continued, and, though few very large and costly works were undertaken of a purely sanitary character, there were signs everywhere of activity in promoting minor improvements in connexion with drainage, water-supply, conservancy, &c.

The municipal income of towns is very small, and considering the demands which have to be met as first charges against it, such as maintenance of police, making and repairing of roads, lighting, &c., there is but a small balance left, even in the more flourishing towns, for new works.

In the town of Burdwan sanitary improvements have received for years the most thoughtful attention of the magistrate of the district, and the energy and thoroughness with which they have been carried out are stated to be most creditable to the Municipal Commissioners.

Special attention was devoted to the improvement of tanks in Hooghly and Chinsurah.

In Dacca town sanitary work was well attended to. A new burning ghât was constructed on the banks of the Buragunga at the expense of Baboo Gobind Chunder Dutt. The city is also indebted to Khajah Abdool Ghunny for the liberal gift of 10,000*l.* for the construction of water-works, and 5,000*l.* for the maintenance of the same. The work was slowly progressing.

Much was done for Chittagong during the year. Steps were taken to supply the town with water, and in the meantime ten good tanks were set aside for drinking purposes, and precautions adopted to protect them from pollution. The clearing out of private as well as public tanks was insisted on, and in the district also the clearing and deepening of tanks was encouraged. A professional survey of the town was being taken with the view to drain and embank it. Most of the old burial grounds have been closed, and two new ones were opened. Land has been acquired for three more, so that there will be no excuse for promiscuous burial, which is so common among Mahomedans. The chief Hindoo burning ghât close to the town was fenced in, and a road made to it. Steps have been taken to erect a special hospital for infectious diseases. Twenty public latrines, each with accommodation for eighteen persons, have been built in the town. Ten houses for sweepers, and ten sheds for carts, have also been put up. Forty-five sweepers were imported from the North-West Provinces, men of this class being rare in the district. For the disposal of the collections from the latrines four pieces of land have been acquired. The municipality undertook to do the whole of the cleaning of the town by daily removal of sweepings, ordure, &c., without a costly system of sewerage. It is estimated that a charge of two annas a head per month will cover all expenses in working this system.

In the Tipperah district several new tanks were dug. A canal was being cut through the middle of the *bheel* to the north-west of the station, which will effectually drain the *bheel*, except in the rainy season, and thus remove one cause of sickness.

A large swamp in Patna has been converted into a public garden by excavating a large tank in the centre of the swamp, and raising the level of the surrounding ground with the excavated earth. The sanitary needs of this large town are very numerous, and comparatively little has been done to meet them.

Great improvements have been made in Durbhunga since the famine. Wide streets have been opened out in well chosen lines, and many of the smaller roads have been metalled. Municipal funds are very low, but sanitary arrangements have not been neglected.

Calcutta.

The Calcutta Municipality obtained a loan from Government for proceeding with the completion of the drainage of the town according to Mr. Clark's scheme.

The difficulty of providing a sufficient supply of filtered water for Calcutta led to much consideration, but the necessary works would involve a serious expenditure.

Frequent observations by the Army Sanitary Commission as to the state of the *bustees* or native villages in Calcutta have at length brought the authorities to give the matter their serious consideration. A special committee appointed by the Justices reported fully on the subject (*see* p. 140). In May 1876 the municipality directed that a selection should be made of twelve of the worst villages, and that a report upon them should be prepared with plans and statistical information. It is hoped that the powers given to the new corporation by the recent Municipal Act will enable that body to adopt energetic measures of reform, although progress, it is apprehended, must be very gradual. The Commission, however, object strongly to the condition implied in the committee's report that the needful improvements are to be carried out only "where reasonably practical," and are of opinion that private interests should not be allowed to stand in the way of measures so urgently affecting the public health. A wealthy citizen has set a good example by voluntarily instituting measures of improvement in his own *bustee*.

Referring to the several sanitary measures executed in this capital during recent years, the Army Sanitary Commission remark: "Considering what Calcutta was a short time ago, these are certainly no inconsiderable improvements to have carried out in a few years."

The Calcutta Health Officer, in one of his quarterly reports, gives the following description of the present state of the town:—

"Good work has been done and costly foundations laid for the machinery which public health demands. The results are demonstrable, and have been excellent as far as they have gone; but, so long as any means or powers remain unused, this partial success can only bring the greater discredit for the very much that remains undone. The city can point to great schemes of main drainage and water-supply, to large outlay on conservancy, to a stately market, to works of improvement on the river banks, to lighted thoroughfares, and some dirty *bustees* replaced by wide streets and squares; but vast areas of solid filth and numberless collections of liquid sewage remain untouched, except for baneful use by the people themselves. * * * *

"The masses of the people are worse than savages in the filthiness of their daily lives. Though the chief thoroughfares are cleaned, the city in its inward parts—its greatest area—has its soil saturated with excrement. The habits of past generations, which have made it so, continue in their disgusting details, as free from interruption as though no thought of public health had ever penetrated here. For a plot of unguarded land about his house the tenant sees no use but that of a latrine; and where his fluid filth runs or soaks into a hollow, he calls it a tank and washes in it."

In another report Dr. Payne dwells on the fearfully high rate of infant mortality in Calcutta. The annual average for the five years ending with 1875, was 480 per 1,000 of the population under one year of age; in 1875 of the Hindoo infant population there died 596 per 1,000, and of the Mahomedan no less than 735 per 1,000. The great cause of this mortality is the native practice of obstetric suffocation. "A chamber a few feet square, so situated that at the best of times its atmosphere must be close, has every aperture carefully shut. It is crowded with relatives and attendants, so that there is often barely room to sit, and a fire of wood embers, or even charcoal, is burning in an open vessel. The atmosphere is principally smoke, which is increased by herbs scattered on the fire for the purpose. The woman is lying, generally on the ground, in the midst of this. The feeling on entering the room is that of impending suffocation, and the first step which the visitor takes is to enable himself to breathe. He opens the window and clears the room of as many persons as can be got to leave it, who betake themselves to a balcony outside or block the door-way until his

“ departure. He knows full well that, as soon as his back is turned, all will be as it was when he arrived ; for it is among the first principles of native midwifery that air should be kept away from a newly-born child. This process of asphyxiation seems to be carried on for a variable period, but in no case, as far as I can ascertain, is the period less than seven days ; it often extends to ten, and with Mahomedans much longer, nor does it alter under any extremes of natural heat.”

Dr. Payne urges this infant mortality as a reason for expediting the reform of the *bustees*, and for introducing into the designs such detailed provision for the rebuilding of huts as shall render the suffocation of the inmates difficult, if not impossible.

An important sanitary measure of the year was the appointment of a Health Officer for the Port of Calcutta. Surgeon-Major French took up this appointment on 1st September 1875. The duties of the office are laid down as follows :—

- (1) To superintend the sanitation and conservancy of the port.
- (2) To board all vessels arriving in port with infectious disease on board.
- (3) To inquire into disease among the shipping in the harbour, and into the sanitary condition of vessels.
- (4) To inspect pilgrim vessels before departure, and grant certificates upon which bills of health will be issued by the Commissioner of Police.

Scarcely any information has been received of sanitary works in the Madras Presidency, but an interesting comparison was instituted by the Sanitary Commissioner between the death-rates of particular towns and the expenditure in those towns on conservancy, with the result that those municipalities which spent the most show the lowest rates of mortality. Madras.

Mr. Clark's scheme for the drainage of Madras town* (*see* Vol. VII., p. 24) was submitted in April 1875 to the Government of Madras, by whom it was favourably received. In expectation of this new scheme being put into execution, much was not done during the year in improving existing drains, which, however, were generally very much out of repair, and were a source of much nuisance.

Sewage farms are, in the opinion of the Municipal Commissioners, “ destined to play an important part in the sanitary improvement of Madras, and their development is an object of the first importance.”

The Red Hills water-supply is stated, notwithstanding its imperfections, to be an incalculable blessing to the town. The Army Sanitary Commission, however, consider that its condition is such as to press for inquiry.

In the Madras Sanitary Report for 1873 (*see* Vol. VII., p. 131) the unhealthiness of the municipality of Cumbum was described in forcible terms. The Sanitary Commissioner, after visiting this station in October 1875, recorded the following conclusions :—

“ The site of Cumbum town is not essentially unhealthy ; its facilities for drainage and water-supply were originally good, and there is evidence that until a comparatively recent period it was considered a healthy and pleasant station. Unfortunately there can be no doubt of its present and progressive unhealthiness. This I believe to be remediable by removal of its causes.

“ The chief predisposing causes of the abnormal sickness and mortality of the town were, in my opinion, the crowding of every available spot within its limits with corpses, and the pollution of its water-supply. The exciting cause is malaria arising from a swamp which, owing to partial silting up of an important irrigation channel, has replaced for about two miles the running stream which originally drained efficiently the irrigated lands around the town.

“ More tombs than living persons are visible in the town ; and it is almost literally true that one corpse at least lies buried under every spot not occupied by house or street. The borders of wells and water-channels, so far from being avoided, seem chosen especially for sepulture. The Mussulmans are the principal offenders in this respect. I had an opportunity of ascertaining the views of the Mahomedan community on this point, and I found that they preferred the abandonment of Cumbum as a station, the withdrawal of hospital and dispensary, even death by what they call fate and we call poison, to interference with the *mamul* of burying the present generation in the remains of the past. * * * * If the opposition of the Mahomedan population be regarded as an insuperable obstacle to the prohibition of burial within the town, and if considerations of expense preclude the introduction of an abundant supply of pure water and the draining of the southern swamp, I believe that attention to minor sanitary improvements will have no appreciable effect ; and under such circumstances

* *See also* Abstract of Municipal Report in this volume, p. 144.

" I should recommend the abandonment of Cumbum as head-quarters either of division or of taluq. On the other hand, I am anxious to guard against the inference that a normal rate of sickness and mortality will be an immediate result of the completion of the sanitary improvements suggested. It is even not unlikely that the effects of malaria will be at first intensified by the measures taken for its extinction. A period of three years at least should intervene between the beginning of the needful sanitary works and the re-occupation of the station."

The Army Sanitary Commission observe that the case of Cumbum is without doubt a typical one in India, and points to the necessity of very careful inquiries into local fever death-rates.

The extreme prevalence of cholera at Salem led to an inspection of that town, which revealed the fact that the drainage was exceedingly defective, the water-supply was as bad as it could be, and the habits of the residents were most filthy. As long as this state of things continues, Salem must expect to remain a hotbed of cholera.

Although sanitation generally in this Presidency is in an extremely backward condition, signs of improvement are perceptible in many directions.

Bombay.

A great deal appears to have been done in the city of Bombay during the year both in conservancy and in sanitary works. The Carnac Bunder nuisance is said to have been to a great extent rectified (*see* p. 147). A full discussion of the drainage and sewerage question will be found in the Abstract of the Health Officer's Report (p. 149).

No accounts have been received of civil sanitary works in the Presidency generally. Reports of the inspection of certain towns are summarised at page 133.

Punjab.

The Delhi water-supply project, after having been under the consideration of the Government of India for nearly a year, was returned to the municipality with some suggestions tending to the conclusion that the cost of the project had been underestimated, and recommending that the municipality should content itself with a supply of 10-gallons per head of the population. These suggestions were considered by the municipality, who decided that a reduction in the supply to the limit proposed by the Government of India would not be advisable. It was, however, hoped that action would soon be taken with the project. The municipality offered to raise, at six per cent., from private individuals in the city, the funds necessary for completing the work.

Projects of water-supply and sewerage were prepared for Lahore, the estimated cost of the two projects respectively being 81,055% and 47,233%. It was hoped that the former might be shortly proceeded with, unless the present state of the Imperial finances should make it impossible to advance sufficient funds. It is proposed to take water from wells situated in the clean alluvial soil on the north side of the Fort. An unlimited supply of water, which is practically the Ravi water filtered, is procurable there. The water will be pumped into a reservoir situated on a high mound near the Fort, and will be distributed in iron pipes through the city. With regard to the other project, the sewers being so designed that they would not be self-cleansing if faecal matters were admitted to them, and it being considered of importance that such matter should be carried off by the sewers, the decision of the matter was left in abeyance.

A water-supply project, estimated to cost about 20,000%, was also prepared for Rawulpindee, and the people were most impatient to have it carried out, the inconvenience experienced from the present scarcity of water in that town being very great. Some further inquiries were, however, necessary before action could be taken.

Under the orders of Government, the Sanitary Commissioner held conferences with 18 district committees with a view to impressing upon them the necessity of improving the sanitary state of the villages under their respective jurisdictions. He prepared a pamphlet describing the history, and embodying the elementary principles, of sanitary science; and he accompanied the reading of this pamphlet with ocular demonstrations of the effect of sewage on water. The members were then encouraged to ask questions and to offer any objections that occurred to them, which were discussed patiently and considerately. Dr. De Renzy was most agreeably surprised at the interest which these meetings seemed to excite, and the pamphlet was in such request that it was necessary to print 22,000 copies of it for circulation among the village population. "Before the sanitary evils of the province can be effectually dealt with," Dr. De Renzy observes, "the people must be informed of the nature and extent of these evils. Any attempt to force on sanitary improvements, the need of which would not be appreciated or understood by the people, must inevitably fail. The conferences lately held will, I believe, ultimately be of the greatest use in directing the minds of the people to sanitary evils, of which they had previously no conception."

With reference to the serious defects brought to light (*see* last Report, p. 29) in Simla, the summer residence of the Government of India, the Secretary of State has acceded to a proposal by that Government to spend gradually a sum of 100,000*l.* in making the requisite sanitary and other improvements, of which one half will probably be final expenditure without any financial return.

The most important improvement in the North-West Provinces was the continuation and further extension of the drainage works which are being carried out for the improvement of the canal-irrigated country of the Doab. This work was pushed forward with great vigour during the year. North-West Provinces.

The Meerut drainage scheme (*see* last Report, pp. 1 and 58) was in course of active prosecution. As the work is perfected, a great amount of water will be carried away from the site, and it is hoped that the ratios of mortality will be sensibly decreased in coming years.

Another notable sanitary improvement was effected during the year. It is thus described by the magistrate, Mr. Webster: "On the main road between the kut-cherry and the city were four shallow, stagnant, and noxious ponds, which gave out in hot weather most unpleasant and unwholesome exhalations. Three of these ponds I have filled up, purchasing the land on their margins for this purpose at a total cost of Rs. 2,589. Thus a great sanitary improvement has been effected, and in effect at no cost at all, as I can now sell the land reclaimed at a considerable advance on the sum expended. But I do not wish to bring on the sale yet, as, after the completion of the drainage scheme, these lands will be much more valuable than they are now. The fourth pond I have drained, deepened, and squared into a well-shaped tank, which now holds a constant supply of good water. This was effected at a cost of Rs. 1,298, and is a very great improvement in the neighbourhood, as, instead of a pestilent, evil-smelling, and disgusting-looking swamp, there is now a square pond of clear water."

The Sanitary Commissioner considers the above a valuable testimony in favour of his belief that unwholesome excavations in, or near to, centres of population may be, in many instances, reclaimed without cost, and sometimes at profit.

Fever prevailed at Meerut to a much less extent in 1875 than in the previous year. On this Mr. Planck remarks: "Although it cannot be supposed that this marked improvement has resulted from the filling up of these ponds, yet I believe some amount of this lessened tendency to fever disease may be due to this cause. * * * It may be true, as argued by Dr. Moir, that the greatly lessened fever tendency of 1875 has been due to the fact that a recently prevailing fever epidemic is declining to the normal endemic state. And if that is so, I think our best safeguards against a return to the epidemic prevalence in future years are the completion of the drainage scheme now progressing, and the extended prosecution of improvements of the kind so forcibly described by Mr. Webster."

In the Terai a considerable amount of good work was effected in the way of drainage works, for the purpose of doing away with swamps and marshes in the neighbourhood of centres of population; and especially in the town of Kashipur this work of reclamation was very thoroughly effected.

At Sambhal, in the Moradabad district, a very important sanitary improvement was in process of completion. For many years past a large amount of water stagnated in the immediate neighbourhood of this town, in and after the rains. With a view to effect the removal of this excess of moisture, a cutting, seven miles in length, reaching from Sambhal to the River Sote, was planned, and in great part effected.

At Cawnpore the drainage of the city site was further improved by the construction of new surface drains of proper level.

In the city of Goruckpore attention was given to the cleansing and general improvement of the great excavations in the vicinity of the jail.

In Benares city two works of improvement, having for their main object the better ventilation and improved conservancy of the city, were completed. They consist of two new roadways, each 40 feet wide, provided with stone-made surface drains and raised foot-paths for pedestrians. They are fairly straight in course; houses of the meaner sort have been purchased and removed in a few places to provide the necessary space; and together they constitute a sanitary improvement of the first importance.

In addition to the above, there was a steady continuance of minor improvements in almost all municipalities. These consist generally of well directed efforts to improve the local drainage, to raise and consolidate the public thoroughfares, and to fill up unwholesome excavations.

In many towns which the Sanitary Commissioner visited he noticed very great improvement as compared with their state at his previous inspections a few years back. Moradabad had made such an advance in this respect since 1868 "as to be hardly recognised as the same." An exception was Bareilly, where the appearances of neglect were even more marked than in 1868 and 1874 (the years of previous inspection), and which Mr. Planck describes as by far the worst in regard to cleanliness of any large centre of population which he visited during the year. Agra, too, appears to be in a somewhat backward state, and Mr. Planck observes: "Supplied as Agra now is with railway communication from both the east and west, the city is not unlikely to increase in importance, both as regards trade and population; if that should be the case, it is very necessary that sanitary improvement should be persistently pursued."

The condition of the centres of population which rank, in regard to importance, between the villages and the well known towns, and which are numerous and often of much importance in native esteem, is stated to be still far from satisfactory; and Mr. Planck thinks that any surplus funds at the disposal of district committees could not be better or more justly expended than for the sanitary improvement of such second-class towns, which have no local resources to fall back upon for this important purpose.

It is impossible, the Army Sanitary Commission say, "to peruse those reports without recognising the earnest, active, and intelligent work done * * and at the same time not to express a desire that similar work may ere long be reported from every district of India."

Oude.

The total expenditure by the Lucknow Municipality on sanitary objects was 5,331*l.*, and of this 2,555*l.* was spent on new drains.

The Government of India have recorded the following remarks with regard to sanitation in Oude: "The vaccination establishments have not been employed in general sanitary work as they ought to have been. Altogether there can be little doubt that all branches of sanitary administration in Oude are susceptible of great improvement."

The Army Sanitary Commission observe that the report for the year does not show any advance in real sanitary improvement throughout the province; indeed there appears, they say, to have been less done in this direction in Oude than in any other part of India. They suggest that some systematic method should be adopted of dealing with the more obvious sanitary defects.

Central
Provinces.

No works of any magnitude were undertaken during the year in the Central Provinces, but improvement of the towns in respect of cleanliness, conservancy, and drainage was carried on. To conservancy measures of all kinds, however, the lower classes are everywhere most averse, and every step in advance is therefore uphill work. There is however, the Chief Commissioner observes, good ground to think that what has already been effected has been fruitful of good results, and that where sanitation has been attended to disease has been less prevalent.

The conservancy system which was introduced in Nagpore in 1873 continued to work well. Considerable improvements were effected in the drainage of certain parts of the town and in the Sitabuldee bazaar, but a comprehensive scheme of drainage for the town, which is much required, cannot yet be undertaken for want of funds, the cost of the new water-works being still a heavy burden on the finances of the municipality. The water service was being extended to different parts of the town; the people appeared fully to appreciate the abundant supply of good water.

At Saugor wells were cleaned out and repaired, and drains laid down in parts of the town where they did not exist before. Systematic conservancy has also been brought into force in the other towns of this district.

Conservancy arrangements were introduced into the town of Burhanpore, but the people object to the private houses being brought within the system. All the better houses are provided with cesspools, and their inhabitants are unwilling to close them.

At Raipore conservancy has been well attended to for some years past. The system of surface drains was considerably extended during the year. The great want of this town is a supply of water that will remain pure and sufficient through the hot weather.

Improvements were effected in the drainage of Chanda; conservancy is well provided for. The water-supply is chiefly from wells; many of these were put in good repair by the municipality during the year.

The Nagpore system of conservancy was brought into force in Hoshungabad town, and was found to work very well; and arrangements of this nature were also adopted in the district towns.

The conservancy of Bhandara was greatly improved, and the water-supply also received attention.

No conservancy arrangements have been instituted at Sumbulpore; the people in dry weather resort for the purposes of nature to the bank and bed of the river. The water-supply is drawn in the hot weather chiefly from the river, but in the rains, when the river is muddy, a large tank in rear of the town forms the chief source of supply, and the ground in the neighbourhood of this tank was found by the Sanitary Commissioner to be very much fouled.

A considerable sum of money was spent in deepening the Poorana tank at Damoh, which forms the chief source of water-supply for that town; and a well near the tank was deepened. The drainage of the station was also improved.

Systematic conservancy has not been introduced at either the town or station of Betul. The station and bazaars were clean and well kept, but in the town there was great room for improvement.

The civil stations of Berar are stated to have been all more or less improved during the year. Berar.

While there is not much money to spend in this province on sanitary improvements, the energy both of the officials and of the people themselves in matters of drainage and conservancy is highly commended. The old dwellings, too, were in many parts giving place to a better class of houses.

The supply of water to Rangoon is a matter involving some difficulty, as, the site of the town being nearly on a dead level, any successful system of drainage by gravitation necessitates a full and frequent percolation. The desideratum is a sufficient reservoir, and the choice at present is stated to lie between the Royal Lakes, in the vicinity of the town, and the Puzoondoung river, at a point above tidal influence. There are serious objections to either scheme, to the former from its inadequacy, to the latter from its expense; meanwhile provision is entirely made from wells and tanks. A valuable addition was made to the tanks during the year. The drainage of the city is very defective. The engineer remarks:—"The soil of the low-lying district of Rangoon is "fearfully polluted by liquid sewage deposited on its surface, and constantly giving off "noxious gases; and, were it not for our lengthened rains, the death-rate of the town "would, I am convinced, be increased tenfold." There is no subsoil drainage; and the surface drains are constantly getting out of order, and have to be periodically cleansed out and repaired. The ordinary day and night conservancy arrangements were efficiently maintained, special labourers having been imported from Calcutta.

British
Burma.

In the towns generally, as is observed by the Army Sanitary Commission, a beginning has scarcely been made in initiating public health improvements.

The reports of eleven festivals held in the Madras Presidency between December 1875 and June 1876 are most satisfactory. The usual efficient sanitary precautions were taken; and, inasmuch as cholera was very prevalent in the country, notices were issued warning the people of the danger attending any large gatherings. The result of these notices was a greatly diminished attendance in all cases; at Mylar not one-eighth of the usual number came. In almost every case there was no sickness worth mentioning, even when cholera was actually present in the surrounding villages. At the Kartigai festival, in South Arcot, about 12 deaths from cholera were reported, and at Conjeveram there were 24 deaths out of 40 attacks.

Sanitary
arrange-
ments at
Madras
festivals.

Military.

Numerous sanitary works were carried out during the year for the benefit of the European troops. The system of dry-earth conservancy maintained its reputation for thorough efficiency when properly carried out. Special attention was given during the year to the sanitary supervision of villages in the neighbourhood of cantonments. The area over which such supervision is to extend was fixed at five miles round each cantonment. It is hoped that the utilization of vaccination establishments in sanitary work will afford the machinery for pointing out defects in villages, and impressing on the inhabitants the duty of remedying them.

European
Army.

The Army Sanitary Commission have drawn up a valuable note of suggestions respecting wells and the filtration of water (*see* p. 165), which has been sent to the Government of India with a request that it may be widely circulated.

Bengal
Native
Army.

During 1875 eight new barracks were built in the native infantry lines at Bareilly, on a plan uniform with those previously existing. Each man in these barracks has now 50 square feet of superficial room, and 480 cubic feet of breathing space. At Dehra, also, 20 new barracks (each one for two families) were completed for the married men of the 2nd Goorkhas; and it is reported that they are well raised, and that in them the ventilation, breathing space, and superficial room are all that can be desired.

The drainage in many cases was far from efficient; for instance, in the lines of the 10th Regiment, Bengal Infantry, at Barrackpore, it is reported that, at certain seasons, the drains serve as inlets for the river water and that from tanks. They thus become reservoirs for the surface filth of the station, and give off most offensive odours when drying up.

The conservancy of cantonments and regimental lines, and of latrines, appears to have been carefully attended to. The water-supply in general was abundant and of fairly good quality.

Madras
Native
Army.

At the stations of the Madras Native Army great attention was paid to conservancy of wells, and the water-supply was generally favourably reported on.

As a rule, the hospital accommodation was sufficient, and the condition of the buildings satisfactory. The latrines were worked on the dry-earth system, with the addition of coal-tar; and a considerable number of latrines were enlarged.

On the subject of the hutting of the Madras troops Surgeon-General Balfour remarks:—

“Of late years the efforts to improve the sanitary condition of the huts and lines of native troops have been unremitting, and to the results of these may, in a great measure, be attributed the comparatively favourable state of health enjoyed by the Native Army during an unhealthy year. Scavenging, drainage, water-supply, ventilation of huts and lines, have all received careful attention; and although much remains to be done, nearly all has been effected that could possibly be carried out with the available means, and under existing circumstances. In some cases the sites of the lines are naturally bad, and so long as financial exigencies prevent the construction of proper drains, it is quite impossible to entirely prevent the pollution of the ground by sewage. Again, as to the huts: it is quite easy to describe what a sepoy's hut ought to be, but the native soldier cannot afford to erect a more perfect and, therefore, more expensive dwelling than the one which he now inhabits. It would be a matter of economy were the State to provide quarters for the Native as it does for the European Army, but till that be done we can only try to reduce the unhealthy features of native lines and their surroundings to a minimum. The lines now occupied by the 37th Grenadiers in Vepery, Madras, have, on account of the nature of their site and its surroundings, been long regarded as insalubrious, but since the end of the year under report money has been sanctioned to form new lines in a better locality. During the year new lines were under construction for the accommodation of the regiment at Mercara, so that the old ones, which were so unfavourably noticed in the last annual report, will shortly be abandoned.”

Bombay
Native
Army.

In the Native Army of Bombay the supply of water during 1875 was reported good and abundant; many of the waters were analysed, and some improvements made. The lines everywhere were kept clean, but where the drainage is only by surface trenches it is hardly possible to prevent the soil from becoming impregnated with impurities. The conservancy and sanitary arrangements, as carried out by cantonment committees, were generally satisfactory.

The climates of Aden and Jacobabad are both characterised by great heat, which exhausts the nervous energy, predisposing in the former to malarious diseases and in the latter, it is considered, to scurvy. The medical officer in charge of the 2d Sind Horse observes that the abundant water now found in Sind, and its excellent alluvial soil, afford special facilities for the cultivation, not only of grain and such like commodities, but also of useful timber trees, which might in time be found to be a new source of revenue to Government. The cultivation of an extensive tract of forest trees around Jacobabad would, in a great measure, temper the severity of the excessive heat during the summer months, and at the same time render this highly malarious atmosphere more congenial for human respiration. With regard to this station the Army Sanitary Commission remark:—“There is one very likely palliative measure which might have been tried

“ when the lines were constructed, viz., to raise the huts, like those in Burma, six or more feet above the ground level. All that we can do is to repeat what has been often said, that no effort should be left untried to render this station more fit to be occupied than it is at present.”

VIII.—SPECIAL DISEASES.

Cholera.

Epidemic of
1875. Ques-
tion of con-
tagion.

Dr. Cunningham has devoted a section of his report to the subject of the cholera epidemic of 1875, elaborately and conclusively setting forth the lessons to be derived from this further experience. As was done in 1872 (*see* Vol. VI., p. 72), the evidence of medical officers at different stations was collected by the Sanitary Commissioner in the form of "notes on individual outbreaks;" and this evidence is shown to substantiate the conclusions previously arrived at, as summarised in the last volume (pp. 38 and 39). At none of the stations was there any sufficient evidence that the outbreak was due to importation; the facts are entirely adverse to the probability of the disease having been in any instance contracted from the sick by attendance on them; and the absence of any beneficial effect from measures of quarantine appears also to be fully demonstrated. The deportment of the pestilence, leaving many towns and villages untouched even in districts where it prevailed most severely, points to the existence of some cause or causes whereby it becomes in some way localised in certain spots; and what these causes are, Dr. Cunningham observes, "must be the subject of further investigation, and their removal the aim of all practical sanitary action."*

During the present year Dr. Cunningham, having come to England on furlough, held conferences with the Epidemiological Society on this important question. As the "Lancet" remarked, after referring to the opposite conclusions arrived at by Dr. Cunningham and by the majority of European observers, "the Society, seizing upon this cardinal difference of opinion, and assuming that there can be no essential difference in the mode of spread of cholera in any part of the world, raised the question as to how far the antagonism of opinion might rest upon differences in the methods of observation pursued in India and in Europe. Observing that another great epidemic of cholera was probably in progress, and that Europe, now quite free from the disease, might soon be invaded again, it was held that the opportunity would then occur for correcting, under favourable circumstances, any error of method which might exist among observers here." This is a more satisfactory method of approaching the subject than that alluded to in last year's Report (p. 38).

Bengal.

The Officiating Sanitary Commissioner for Bengal (Surgeon-Major Pilcher) makes the following observations with regard to the cholera of 1875 in that province:—

"There are special circumstances connected with Pooree district and its chief town of the same name which enhance the value of all observations bearing on the origin, progress, locality, and seasonal activity of cholera. The town of Pooree, containing the shrine of Juggernath, is the goal to which constant streams of pilgrims converge from Northern, Western, and Southern India. It is periodically thronged to overcrowding by poor and wearied travellers, and this overcrowding occurs at the most inhospitable season of the year. Cholera is a yearly visitor in the district, and its occurrence is invariably attributed to importation by pilgrims. * * * In all the months except January cholera was present in the district. Unlike the districts of the Presidency and Dacca Divisions, the period of endemic intensity occurred in July, August, and December, instead of March or April and November. * * * Balasore is another district of the Orissa division which suffered severely from cholera in the year, and it may be noted that the chief route to Pooree for pilgrims from Northern and North-Western India passes through the whole length of the district. The disease prevailed all over the district and throughout the year. Though its times of endemic intensity were, as in the case of other districts, March and November,

* The following pertinent remarks on this section of Dr. Cunningham's report occur in the "Pioneer Mail" of 4th November 1876: "Thanks chiefly to Dr. Cunningham himself, 'clear' cases of importation are now neither so numerous nor so clear as they used to be. In former times medical officers sincerely believed in importation, and humbly conceived that it was only their own imperfect abilities and the tangled nature of things which prevented them tracing the importation clearly in every case. This led to the great looseness in the collection and application of evidence. Now-a-days they have, like other people, grown more sceptical, and they also know that, if they do not sift the evidence they have to record with great care, the process will be accomplished for them at head-quarters. Every one acknowledges that in many cases importation *seems* to be *all but* proved (as in the case of Jubbulpore mentioned in the report), but there is always some link in the chain of evidence missing; in other words, the occurrence of importation has never been actually proved; and there are, on the other hand, facts which indicate that importation can never be proved because it does not occur. In the present report it is stated that those medical officers who attributed the disease in particular instances to importation did so merely because cholera was more or less prevalent in the vicinity, a style of reasoning which does not strike us as very powerful or profound."

“ yet the disease was generally severe from February to July inclusive, and during the whole of the last three months of the year.”

The result of his observations “ regarding the locality of cholera in the Midnapore, Balasore, Cuttack, and Pooree districts showed that the disease appeared in *thanas* quite removed from pilgrim routes, and at a time of the year when it usually breaks out ; that the disease appeared almost simultaneously in all the *thanas* of the Durbhunga district in April ; and also that many *thanas* through which the main pilgrim route passes are scarcely affected, while others suffer severely. These are facts not in keeping with the theory that cholera is communicated by travellers from infected districts. It is in the solution of important problems of this kind that the aid of statistics is essential, and it is a matter for regret that more rapid advance has not been made in mortuary registration.”

There was a specially severe outbreak in the village of Sultanpore, in the Patna district. Of this place Mr. Pilcher reports :—

“ The sanitary state of the village could not be worse than I found it. It is built on a narrow strip of slightly elevated land, and is surrounded, except towards the north, by the flood water of the Ganges, which flushes many of the wells in the lower land, filling them with the filth of various kinds thrown out from the village. Several wells visited in the village were found to be in an unsatisfactory state, either from the collections of dirty water about their mouths, or from the deposit of mud within them. The conservancy of the village was, moreover, in a very primitive state.”

He adds : “ In Gya district the disease spread without reference to main lines of traffic, and villages situated long distances from each other and from an affected locality were simultaneously attacked.”

Of a tea garden in the Darjeeling Terai, where the coolies suffered severely from cholera, the following description is given :—

“ This garden is situated in the heart of the Terai, and is bounded on one side by a river. It was opened some seven years ago, and has the reputation of being one of the healthiest for Europeans, but the reverse for natives, who suffer from malarious fevers, dysentery, and diarrhoea, particularly in May, June, September, and October. In 1872 a severe attack of cholera occurred in this garden, but since then only a few sporadic cases were presented. The garden population number about 300, of whom about two-thirds are *pahareahs*, locally recruited, and the remainder are plains people. The cooly lines are too close to one another, and are surrounded by high jungle, which impedes ventilation and is a handy receptacle for all descriptions of refuse and filth. There are three sources of water-supply—the river, a small streamlet, and a well—all of which are good except during the rains ; but the coolies prefer to use water from other sources, however filthy they may be. In the Terai the *hâts* or bazaars are numerous, and the coolies gorge themselves at these *hâts* with putrid fish, pork, flesh of buffaloes, &c., and then consume bazaar liquor until they are drunk, and in this condition they generally lie out all night in the damp and cold, being, as they generally are, improperly clad.”

Dr. French has recorded some valuable notes on cholera in the Port of Calcutta, the result of observations and inquiries during the last four months of the year. There were altogether 34 cases on 20 ships. Of these, one was a captain's wife, 7 were officers, 9 petty officers, and only 17 were seamen. These are considered by Mr. Pilcher to be “ unexpected and important facts,” as tending to show that “ those who have the best accommodation, and who presumably take the greatest care of themselves, are the most liable to the disease.”

Communication with the shore does not seem in any way to be associated with the cause of cholera, and the disease occurs in those who have never landed.

The only serious outbreak in the port was on board the ship “ Marguerite.” Of the water used by the crew Dr. French remarks that it had a foul odour, as of sulphuretted hydrogen, and a very unpleasant taste. An analysis showed that it was most impure, and quite unfit for drinking, and on the 14th it was thrown away, after which no case occurred. It was found that this water had been purchased from boatmen who pretend to supply the Calcutta filtered water to all ships in the harbour not near enough to take a direct supply from the hydrants on the banks. No time was lost in communicating with the Port Commissioners and the Chairman of the Justices of the Peace for the town of Calcutta on the subject, and the result has been that increased facilities will be afforded by the municipality for the direct supply of ships along the banks of the river, and all the ships in the harbour which cannot draw direct from the hydrants will be supplied by the Port Commissioners, who are now organising a service for the purpose.

Dr. Beatson writes, in his report on Calcutta Medical Institutions :—

“ It is, I believe, a matter of fact that we rarely now-a-days find cholera amongst the residents in the Fort, or in those parts of Calcutta which have come under the healthful influence of a pure water-supply, improved drainage, and the more speedy removal of filth of all kinds (animal and vegetable) from our streets and house enclosures ; and an inspection of the statement showing the localities from which cholera cases were admitted into hospital tends to prove that the principal cholera haunts are still to be found in those places where filth, overcrowding, bad drainage, and defective sanitation abound.”

Bombay.

The Health Officer for Bombay reports as follows on the cholera which prevailed in that city in 1875 :—

“ Of those attacked, 1,038 drank Vehar water, and 324 well water ; whereas, of the cases in which the disease ended fatally, 607 drank Vehar water, and 240 well water. The percentage of deaths to the attacked was amongst Vehar water drinkers 58·47, and amongst those who used well water 74·07. * * *

“ It is a remarkable fact that there were only four deaths from cholera amongst that degraded race who from their cradle live in the odour of ordure, and whose lives are spent in handling it. If there is any truth in the belief that the bowel discharges of the affected with cholera contain the active principle of the disease, then the immunity from this disease which those appear to enjoy whose occupation and mission in life it is to handle and remove fecal matter is as remarkable as it was to be unexpected. * *

“ It has hitherto been held as an article of belief that particular localities, owing to their geological formation and surface configuration, had a peculiar attraction for cholera. It has been assumed that the porous soil and low-lying position of some of the districts in this city exerted a great influence, if they did not play a chief part, in the causation and localization of cholera in Bombay. The experience gained regarding the disease in this city, as I read it, goes to prove exactly the contrary, that there is no apparent connexion between the soil and the endemicity of cholera in Bombay, and that, when cholera acquires an epidemic character, its progress is not controlled nor guided by the surface formation of the city. The history of the last epidemic teaches that the causes of the outbreak lay not in the soil but in the people, and that the progress of the disease was not influenced by the distribution of the soil. * * *

“ The manner in which the disease fell on particular persons and passed over others living in the same street, or even in the same house, is very singular. I will give two illustrations, as they indicate how careful we should be before coming to any conclusion regarding the effect and value of segregating cholera patients. * * *

“ The lesson to be learnt from the outbreak is plain. It teaches us that we need not go from Bombay to search for the causes of the epidemic, that they are in our midst, and that they are to be found in a teeming, poverty-stricken population, huddled together in overcrowded, ill-ventilated dwellings ; and that, to eradicate cholera, the masses must have more food and better dwellings, and a higher standard of living must be adopted.”

In Vol. VII. (p. 35.) reference was made to an outbreak of cholera in the Yerrowda jail, which was considered by the Superintendent, Dr. Blanc, to be clearly traceable to infection. In this volume (p. 188.) is contained an analysis of the incident by the Army Sanitary Commission, who show that, as usual in such cases, the conclusions put forward are based on mere hypothesis. While, however, there was no evidence of specific infection in the water used by the prisoners, there was no doubt of its dangerously foul condition.

Punjab.

The decennial table on page 8 of cholera deaths in the Punjab indicates an apparent tendency in the disease to become epidemic about once in every three years.

It is further shown in the Punjab Sanitary Report that cholera epidemics occur under the most diverse meteorological conditions. At Lahore 1875 was a year of profuse rainfall, while 1869 and 1872 had a moderate rainfall. In the hot weather of the years 1869 and 1875, the heat was above the average ; in 1872 it was below the average. Nor, as regards humidity, would there appear to have been any thing peculiar in cholera seasons. In non-cholera years the barometric depression is quite as great as in cholera years.

Cholera seasons in the Punjab are found to be those in which the mortality from other causes, notably fever, is the greatest ; and the statistics would seem to suggest some connexion between the causes which develop fever and cholera. The same circumstance is noted by the Deputy Surgeon-General in Mysore, in the following words : “ The opinion held by some that, when epidemic disease such as cholera is abroad, fever and other ordinary diseases are proportionately diminished, does not hold good as regards the mutual relation of cholera and fever during 1875 in this province. Both aggregates were in excess of the average.”

The Sanitary Commissioner for the Punjab devotes nearly the whole of his report on the diseases of the year to cholera, giving to it, in the opinion of the Local Government, "an attention disproportioned to its importance, when it is considered that deaths from this disease ordinarily form an almost inappreciable proportion of the general mortality of the province."

The following remarks on the diffusion of cholera in the North-West Provinces in 1875 are extracted from the Sanitary Report for that year:—

North-West
Provinces.

"The map of mortuary circles * * shows that geographical position does not apparently influence cholera prevalence. * * * And it may be seen that, although the diseased action was wide spread in patches over the face of the country, its stress fell on few circles in every area of prevalence. * * * The returns received from the Banda district were very carefully prepared. * * * The result is that, of a total of 1,231 centres of population contained in the district, cholera disease prevailed in 220. Of these 220 villages, in only 26 were more than 10 deaths recorded. These places of excessive prevalence are situated principally in two groups, one in the centre, the other in the eastern portion of the district. Indeed the total prevalence may be divided into three portions. * * * In all these portions the disease may be seen in many instances to have affected villages with contiguous lands; so often is this the case that I think it may be accepted as a rule. Deaths in isolated villages occur here and there, but the course of the prevalence may be traced on the map from village to village almost without a break over wide surfaces of the district. In tracing this prevalence, it is seen, too, that centres of population situated on or near to the lines of traffic are very often affected. * * * The figures do not show that the disease passed from village to village in orderly succession of dates; indeed nothing could be more irregular than the dates of first outbreak, villages far from the centre of first attack having been affected before villages quite near in many instances and in all directions."

The Sanitary Commissioner for the Central Provinces enters very fully, in his report, into the meteorological conditions of 1875, comparing them with the conditions of 1874, in which year there was next to no cholera. He states: "The month of March 1875 was marked by the commencement of an epidemic of cholera, which in the subsequent months spread over large portions of the province; and the experience of former years has shown that it is in the early months of the year that epidemics of cholera arise,—that if March and April pass by without cholera having become epidemic within the limits of the province or in the districts bordering on it, immunity from the disease in an epidemic form more or less complete for the remainder of the year may be counted on. A comparison of the meteorological conditions of the early months of 1875 with those of the corresponding months of the previous year, which was marked by complete immunity from the disease, becomes therefore a subject of much interest."

Central
Provinces.

He then proceeds to show that the excessive temperature of March constituted the chief feature in which the meteorology of the early part of 1875 differed from that of the corresponding period of 1874. In January 1875 the mean temperature was much below the average; during the last three weeks of February it was higher in 1875 than in 1874; in the second week of March 1875 a remarkable rise of temperature occurred (while the corresponding period of the preceding year had been marked by a decided fall), and the temperature continued higher through April. The humidity of the atmosphere was slightly greater in February 1875 than in that month of 1874, but it was lower through March, April, and May.

Of the epidemic in Berar it was observed by the Sanitary Commissioner that the general direction was from west to east. "At times, however, it appeared to move in waves, sometimes the back wave taking in villages which the front one had passed over; at others it looked as if it were sending off shoots, some in advance, others laterally, and others again obliquely; nevertheless the advance of the disease was clearly eastward, and its passage—that is, the interval between the date of the first case in Berar and the first case beyond our eastern border in the Central Provinces—through the province (90 miles) occupied 66 days."

Berar.

Dr. Abbott made careful investigations into the connexion of the cholera with meteorological conditions, and the general result he arrived at was that atmospheric phenomena do not occasion the advance or decline of an epidemic, although they may

account for its peculiar deportment. It would not appear that the cholera in Berar was due to great heat, for no parallel appeared between the mean monthly temperature and the monthly cholera mortality; and so also increased moisture did not necessarily bring with it an increase of the malady.

Fever.

Bengal.

The severe and fatal fever which prevailed in the Burdwan, Beerbhoom, Midnapore, and Hooghly districts in past years continued to abate, both in regard to the area affected by it and the intensity of the disease.

The officiating Civil Surgeon in Burdwan expresses the following opinion with regard to this fever:—

“Whatever may have been the name given to the fever which a few years ago decimated the inhabitants of this district, judging by the after effects one can see now, and by the universal prevalence of intermittent fever and ague I am of opinion that it was a purely malarious fever locally intensified into a very virulent type. This type is now rarely met with, either because the exciting cause has died out, or because the disease has exhausted itself on all such as were liable to be affected by it. All those who have had opportunities of studying the disease thoroughly hold the same opinion that it is or was purely malarial fever.

“In conclusion, I may state my opinion that the Burdwan district has regained about as good a condition of general public health as can probably ever be expected. As an almost exclusively rice-producing district, with three-fourths of the soil under water for three or four months of the year, abounding in swamps and old river-beds, with but little natural drainage, with a high-level river, the Damoodah, running through the district from end to end, only kept from overflowing by a bund, and not draining the surrounding country at all, we have nearly every factor for an unhealthy district.”

The Civil Surgeon of Darjeeling writes as follows regarding fever in the Terai:—

“The incubation stage after exposure to the malarious influences seems to vary from a week to a fortnight. Some Europeans and natives, who live constantly in the Terai, may only be subject to occasional and slight attacks, which however undermine the health and power of withstanding disease. When the Terai residents visit Darjeeling, however, they are almost certain to get fever, and that to a much more intensified degree than down below. In such cases relapses are common, and it often takes a long time to exhaust the force of the poison, which seems to have accumulated in their system. The severe cases soon run into the remittent and often continued type with cerebral complications.”

North-West Provinces.

It is noticed in the Sanitary Report of the North-West Provinces that in respect to fever mortality the Terai district stands at the head of the list. It is a moist country, with excessive vegetation, where it would be reasonable to expect much fever. Moreover, the inhabitants are in large proportion immigrants from more densely-peopled parts of the country, and a considerable surface of the district is uncultivated land, thick set with forest and jungle. But nothing of this description will apply to the land of the Doab, which is a region of soft dry land, drained on either hand by wide rivers of sweet water, its surface carefully cultivated, its people the descendants of long settled families. That fever disease should prevail there in any measure approaching its prevalence in the Terai must be due to some unusual cause. The Sanitary Commissioner thinks that cause is the increased moisture brought into the land in recent years by hindrance to the outflow of rainfall. If this opinion is correct, then the only hopeful remedy is the improvement of the natural drainage lines of the country. This has been done with a great amount of success in the upper Doab, and will in time, it is hoped, be thoroughly effected in the central and lower Doab. With clear running streams always passing to the Ganges or Jumna, the increase of moisture in many localities, hurtful both to the fertility of the soil and the health of the residents, is likely to be effectually removed.

Oude.

The inquiry into the prevalence and causes of fever in Oude (*see* Vol. VII., p. 37) was committed by Government to the Sanitary Commissioner in June 1875, but very little was accomplished except during the last three months of the year, and only one of the civil surgeons is stated to have taken much pains in the matter. Any positive results of importance can only be looked for after the inquiry has been carried on for a number of years.

The only conclusion to be drawn at present is that fatal malarious fever is not so universally prevalent over the province as was supposed; and that it is most so in sub-Himalayan tracts of country, and in low-lying lands, where jheels abound and the soil is water-logged.

As regards the sanitary condition of the villages the reports continued the same, that they were filthy in the extreme, with all sanitary rules set at defiance. The water as a rule was stated to be fair in quality, but in this matter appearances are often deceptive, as water that is bright, odourless, and tasteless may yet be contaminated and act as a poison.

The Civil Surgeon of Kheri, who has submitted an interesting report on the fever tract of the Katna river, sums up the evidence obtained from 20 villages as follows:—

1st, That the greatest number of cases and the highest mortality occurred in the months of August, September, and October.

2nd. That in villages situated on low-lying lands the prevalence and virulence of the disease was comparatively greater.

3rd. That the cultivation of particular crops did not appear to exert any influence.

In regard to sanitary condition, state and repair of wells, comforts, &c. of the inhabitants, these villages were similarly circumstanced.

On the subject of fever in British Burma the Sanitary Commissioner makes the following remarks:— British
Burma.

"It has commonly been believed that Burma, with its heavy rainfall, large tracts of low lying lands, which are inundated during the rains, thick vegetation, and low lying deltas, must be a hot bed of malaria, but it is not so; the prevailing fevers of the country being febricula and quotidian intermittent, readily amenable to proper treatment. No doubt these simple fevers often terminate fatally from secondary diseases developed in consequence of the ignorance of the Burmese medicine men, whose treatment is opposed to common sense. These men have really no fixed theories, and in practice each differs from his neighbour; the majority use very violent purgatives, shut the patient up in a house, excluding the air as much as possible, allow no nutritious food, do not allow the body to be cleansed even with warm water, as they evidently think the thicker the skin becomes coated with dirt the greater the protection against chills; others give nostrums, composed of about 20 different ingredients, the principal being spices, nitrate of potash, soot, sulphur, and arsenic; this, which is a more reasonable mode of medicinal treatment, is supplemented by the same general treatment as that adopted by their more energetic brethren, and the result of both modes of treatment is commonly an anæmic condition terminating in general dropsy, which is very frequently fatal by sudden effusion; others, again, pursue a dietetic system principally based on popular ideas that certain foods emit unhealthy smells."

And the following is extracted from a report by Dr. Crombie, of Rangoon:—

"According to Theobald, whereas the Gangetic delta is an area of subsidence with a deposit of recent alluvium (from 60 to 80 feet thick at Calcutta), the Irrawaddy delta is undergoing elevation, and only about 200 square miles of it (of which the greater part, namely 140 square miles, is round Pantanaw), are covered with recent alluvium. The alluvium of the Irrawaddy valley and of Burma generally is the older alluvium, originally deposited at the bottom of the sea, before the elevation took place, and, according to Theobald, except round Pantanaw, where there is a depression in the older alluvium, and within six miles of the river banks between Pantanaw and the frontier, the effect of the yearly flooding of the country in depositing new alluvium is nearly *nil*, because the flooding is really produced by the hill streams, which are dammed back as the Irrawaddy rises, and the level of the flood water is already as high as the Irrawaddy banks before its waters top them. The consequence is that the Irrawaddy, although it tops its banks, overflows them to only a comparatively slight extent, and can be seen flowing through the flooded country like a ribbon of a different colour. On the subsidence of the Irrawaddy at the end of the rains, any deposit that may have taken place is scoured away with a force proportionate to the area flooded. In [this way it happens that the surface exposed on the cessation of rains and the fall of the rivers is the old alluvium, poor in organic matter, and not a new deposit, suited in every way, under a tropical sun, for the evolution of 'malarial gases,' as in the Gangetic delta, where the conditions of the annual flooding are entirely different. The Ganges is a depositing, while the Irrawaddy is an excavating river."

The Chief Commissioner observes that, while the comparative immunity of the province from fevers of a severe type may partially arise, as the above report suggests,

Central Provinces.

“ When the rainfall of the season has been scanty generally over the country, the prevalence of fever will be comparatively slight; but the development of malaria, or whatever the cause of fever may be, is not so closely related to the amount of rain that falls that an excess of rainfall will always be followed by greater prevalence of fever. A comparison of the fever rates of the different districts in the same years, or of the same districts in different years, shows no distinct or uniform relation between the amount of mortality from fever and the amount of rainfall. Sufficient rainfall to thoroughly saturate the soil and subsoil is probably one of the factors necessary to the production of fever, but it may be that an excess beyond this would hinder rather than promote its prevalence.”

With a more than average fall of rain throughout Rajpootana, the amount of malarious fever was below the average. The rains fell late in the autumn; and as in the month of October the sun, though still powerful, begins to lose some of its force, the drying process is less rapid. To this the favourable result mentioned was probably due, as it is the rapid drying of saturated soil, rather than excess of moisture, which is usually followed by the appearance of paroxysmal disease.

It would appear from the Sanitary Report for the North-West Provinces that the seasons of greatest mortality from the four principal death causes are as follows :—

<i>Fever and Bowel Complaints</i>	-	-	-	{ Rains.
				{ Cold.
<i>Cholera</i>	-	-	-	{ Hot.
				{ Rains.
<i>Small-pox</i>	-	-	-	- Hot.

The comparative absence of cholera and of small-pox during the seasons not specified above is very marked. The Sanitary Commissioner for Berar, in his Report for 1874 (*see* Vol. VIII., p. 47.), gave the results of very careful meteorological investigations, and drew the inference that fevers and bowel complaints arise from one and the same cause. In the Madras Report for 1875 an opinion is given that bowel complaints are identical with non-epidemic cholera. Further investigations on this important and interesting subject have been ordered.

Bombay.

The following remarks convey the result of observations on the subject of small-pox by Mr. Weir, Health Officer for Bombay :—

“ Small-pox acquires greater virulence and is more prevalent in the first four
“ months of the year than at any other season. It may almost be regarded as a
“ cold-weather disease. The extent to which small-pox is apparently influenced by
“ the seasons is very remarkable. * * * * The greater fatality of the
“ disease during this period of the year is evidently due either to the season
“ or to the greater prevalence or activity of those causes which give rise to small-
“ pox at this season. From the latter end of January up to the middle of April
“ it is in its greatest maturity. And to what is its prevalence at this time to be
“ ascribed? On what principle is its decline as the weather begins to get warm
“ to be explained? During the cold season people keep inside and sleep inside their
“ houses, all the doors and windows are kept carefully closed, and as much of the cold
“ wind as can possibly be kept out is excluded. The rooms at night are overcrowded.
“ With the windows open this overcrowding would not be so much felt, but with the
“ doors and windows all closed it not only seriously injures the health of those who live
“ under these conditions, but, when there are people affected with small-pox sleeping in
“ the same rooms with people who may not be suffering from this disease, and with
“ children who have not been vaccinated or had small-pox, the exclusion of the fresh
“ air, and the overcrowding, must exercise a tremendous influence in propagating the
“ disease. To comprehend fully how these conditions act, the peculiar views the people
“ of this country hold regarding the nature and origin of small-pox must be understood.
“ They do not realise that small-pox is infectious, and many of them believe that it is

“ one of the ways by which Providence dispenses its choicest favours. Not believing in the infectiousness of small-pox, they despise and neglect precautions.”

It will be seen that the seasonal prevalence of small-pox in the city of Bombay differs widely from that observed in the North-West Provinces as stated just above.

The Sanitary Commissioner for the Central Provinces remarks :—

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Provinces.

“ Although vaccination has in a great measure contributed to reduce the rate of mortality from small-pox in many districts, the death-rates from small-pox do not fall in a very constant proportion to the vaccination rates ; there are no doubt influences that produce variations in the mortality from small-pox in different localities and in different seasons.”

Dr. Abbott infers from a comparison of the two small-pox epidemics which culminated in 1869 and 1873 respectively that the life-time of an epidemic is just 4 years, that it takes 18 months to reach maturity, and that its decline is more gradual, occupying about 30 months. He further observes :—

“ The deportment of this disease is peculiar, as, whether it is on the rise or on the decline, the mortality from it increases and decreases according to the seasons of the year. Thus, during the rains, when the weather is moist, there is a marked decrease in the mortality. As the cold weather sets in, the mortality increases, and continues doing so till the hot season, when it reaches its height. Again, when the weather is moistened by the rain in June, the mortality begins to fall. It is remarkable however, and tends to show that meteorology in itself does not influence the advance of an epidemic of small-pox, that each epidemic we have a record of reached its height in the beginning of the hot season, whereas in the other years of each epidemic, whether on the rise or decline, the mortality rose till the weather became moistened by the monsoon rains setting in.”

Leprosy.

It was mentioned in Vol. VII. (p. 31) that the Government of India had determined to employ Doctors Lewis and D. Cunningham on scientific investigations into various special diseases. During the year under review these officers instituted very elaborate inquiries into leprosy and Delhi sore, the results of which are appended to Dr. J. Cunningham's report for the year.

Inquiry
by Drs.
Lewis and
Cunningham.

With regard to leprosy, they commence by pointing out that there are three large tracts of country where it prevails to an extraordinary extent, namely : Beerbhoom and Bancoorah in the Burdwan Division of Lower Bengal ; the Kumaon Division of the North-West Provinces, extending across the southern range of the Himalayas ; and the Deccan and Konkan Divisions of the Bombay Presidency.

The distribution of lepers in the different Presidencies is as follows :—

		Number of Lepers.	Ratio per 10,000 of Population.
Bengal	- - -	71,287	5.2
Madras	- - -	13,944	4.4
Bombay	- - -	13,842	8.5
Total for British India	-	99,073	5.4

The Burdwan Division of the Bengal Presidency contains 12,081 lepers, and the ratio to population is 16.5 per 10,000.

The disease is exceptionally prevalent in the following districts :—

Presidency.	District, &c.	Ratio per 10,000 of Population.
Bengal	Beerbhoom	41.2
Ditto	Bancoorah	30.0
Ditto	Burdwan	22.6
Ditto	Kumaon and Gurwhal	21.1
Ditto	Banda (Tehseel)	19.6
Ditto	Dehra Doon	19.0
Bombay	Barsi	25.6
Ditto	Sowda	25.0
Ditto	Rajapore	23.4

A special inquiry was carried on in Kumaon in pursuance of a suggestion by the Lieutenant-Governor of the North-West Provinces (*see* Vol. VIII. p. 49).

The relation of the disease to the physical features of various localities in this district will be treated by Drs. Lewis and Cunningham in a further report. Meanwhile they account for its extreme prevalence in the eastern part of the district by its contiguity with Nipal, where lepers are not allowed to live, and whence in all probability great numbers cross the frontier to avail themselves of the protection of a more humane government.

Leprosy in Kumaon does not appear to be dependent on dirt, although the habits of the people and their villages are filthy in the extreme, man and beast living in the same dwelling all the year round. The Bhootéas, who inhabit the northern parts of Kumaon, are even dirtier than the natives of the district, it being considered by them unlucky to wash, and yet they are said to be free from this plague.

From the statistics of the Almora Asylum it would not appear that the disease is specially prevalent in any particular class of the community.

Among 79 cases in the asylum the age of attack varied from 3 to 60 years, the average being 23·73. Taking all the varieties of leprosy together, there was no evidence of a tendency to earlier attack in females than in males; indeed, the tendency was slightly the other way. But in the anæsthetic form the average age of attack for females was 24·8 against 27·4 for males.

The inquiry was decidedly unfavourable to the contagiousness of leprosy. Of 52 lepers in the asylum who were married, 18 had leprous wives or husbands, but as 17 of these marriages were contracted between lepers in the asylum, there remains only one case in which the possibility of contagion is to be considered, and certainly this isolated instance cannot be regarded as affording any trustworthy evidence, as in an endemic area the possibility of the occasional occurrence of marriages between predisposed parties must always exist. There was no evidence of attendants or others employed about the institution or of those in any way connected with it having suffered from the discharge of their duties in any way.

The history of the patients pointed to hereditary predisposition, and to a strongly-marked tendency in the disease to follow the female line of descent. Further facts brought out were the comparative sterility of lepers, and the high rate of mortality among their offspring. In connexion with the first of these points, a much smaller number of children was credited to male than to female lepers. This may probably be accounted for by the fact that in India there is often such great disparity between the ages of men and their wives that, allowing the age for the manifestation of disease to be practically alike for both, the females have a much longer time previous to its advent in which to produce children than the males have.

An interesting experiment was in progress at Almora, namely, the retention and observation of the children of lepers in an orphanage. Of 12 such children, 7 were born in the asylum of two leprous parents, and 5 were the offspring of one leprous and one healthy parent, having been born in the villages to which their parents belonged. Their ages ranged from 19 to 5 years, their health and general condition were excellent, and as yet they showed no signs of leprosy. The experiment is as yet imperfect, but it is capable of affording very valuable information if the future history of the children be carefully noted. They have been removed from the surroundings under which the disease manifested itself in their parents, are well fed and carefully attended to, and their subsequent history cannot but throw light on the extent to which the influence of hereditary predisposition can exert itself, or may be modified and kept in abeyance by ameliorated conditions of life.

To the forcible segregation of lepers themselves Doctors Lewis and Cunningham are strongly opposed; and they observe that there would be insurmountable difficulties in the way of carrying out any such measures, as not only those actually suffering from the disease, but all persons supposed to be hereditarily disposed, would have to be secured and confined. Asylums, properly so called, are, they say, very useful and desirable institutions. The one at Almora has been in existence for upwards of 30 years, and has been an undoubted and very great blessing to the lepers of Kumaon, affording them a shelter in which they may live in comparative comfort, in place of wandering at large over the country as beggars. A striking proof of this is the rarity with which leprous beggars, in spite of the prevalence of the disease, are to be encountered in the neighbourhood of Almora, as well as the contented and even cheerful spirit displayed by the vast majority of the inmates. The comparatively small number who leave the asylum also speaks well for the comfort enjoyed by the patients.

In compliance with the Resolution of the Government of India mentioned in last year's Report (p. 49), the Sanitary Commissioner for Madras issued a circular to 33 civil medical officers in that Presidency, requesting them to furnish any facts that might come under their notice bearing on the distribution and causation of leprosy. Up to June 1876 eleven reports, of more or less value, had been received by the Sanitary Commissioner, by whom they have been printed as an appendix to this Report for 1875. Only one of the reports, which is drawn up in a very perfunctory manner, favours the doctrine of contagion, while there is a concurrent testimony to the hereditary character of leprosy. One officer states: "Among the many cases that I have met with during my short experience in this country, not one ever gave me satisfactory proof of contagion. Were it contagious, would not thousands in India be the victims of this loathsome disease?" Another: "I am not aware of a single case in which the disease has been produced by contagion." Another: "I have no experience of the contagiousness or otherwise of the disease, but the following, whilst tending to show contagion, shows also that it cannot be very active. A woman now in the lazaretto got the disease after *four years'* cohabitation with her leprous husband." Another: "That it is contagious in the ordinary sense I see no reason whatever to believe. That it should be so, and yet no popular recognition of the fact have ever arisen in a country such as this, is simply incredible to any one acquainted with the manners, customs, and ideas of the people; whilst the very great frequency with which it is transmitted one degree out of the direct line (as, for instance, to nephews and nieces, and then perhaps to a cousin, second in descent from the original leper) is to my mind an unanswerable argument against the contagion theory; that it may be communicated as between husband and wife is admitted, but this I attribute to blood poisoning through the medium of the foetus in utero, and not to contagion as ordinarily understood."

In conclusion, the Sanitary Commissioner quotes the following extract from a private letter: "Since my conversation with you this morning, I have had some talk with Mr. H. on the subject of leprosy. He has a son afflicted with this disease, the only one of his family. He attributes it to the fact that the native nurse, who suckled his son as an infant, broke out with leprosy herself some years after she had nursed this boy. He told me that the late Mr. F., whose first wife was an European, had two daughters. The eldest was nursed by the mother, and she had no signs of leprosy; the second, owing to the mother's illness, was nursed by a native woman, and *this* girl afterwards broke out with leprosy. Mr. H. told me that so strong is the persuasion amongst East Indians that the disease is taken from native nurses that infants are now frequently brought up on cow's milk or goat's milk." Mr. King adds the remark: "Can all cases of true leprosy occurring in pure-blooded Europeans in India be traced to infection through lactation?"

The results of similar investigations in the North-West Provinces have been embodied in an interesting report by Mr. Planck, the local Sanitary Commissioner. The principal points brought out are the following. North-West Provinces.

It would appear most probable, though the point needs further consideration, that local conditions have no influence as a cause of the disease.

The male constitution, or the circumstances of male life, are peculiarly favourable to the development of the leprous condition.

It is not limited to persons of any special forms of employment, although, as a fact, it seems to be rather more prevalent among persons of sedentary habits.

Its prevalence appears to be tolerably equal among the rich and the poor.

As a rule, it does not appear in a recognisable form until after 20 years of age, that is, after children have presumably been born to those afflicted; so that the sequestration of lepers with a view to the eradication of the disease could not be carried out to any purpose.

Lepers are as prolific* and as long-lived as the rest of mankind.

With regard to the question of contagion, Mr. Planck, while not yet prepared entirely to deny it, shows that the instances are at all events infinitesimally few. If the disease ever originates in contagion, this would certainly be the case in the cohabitation of man and woman, and an apparently authentic case is indeed recorded of a colonel in the Indian Army who some years ago became a leper and could only account for his misfortune by the fact that he had continued to cohabit with a native woman after she had been attacked with leprosy. But of 855 cases which were investigated, in which cohabitation continued after the disease had appeared on either side, the reports expressly stated that in 831 the disease was not communicated to the healthy persons. In 13 out

* This point does not accord with the conclusion arrived at by Drs. Lewis and Cunningham (see last page.)

of the remaining 24 cases both persons were acknowledged lepers at the time of marriage; and there were good grounds for believing that at least the majority of the other 11 were cases of intermarriage between members of leprous families.

The testimony of these reports goes to prove that hereditary taint is a potent, and perhaps the most potent, cause of the continuation or prevalence of leprosy.

Lastly, Mr. Planck states that, as the inquiry proceeds, evidence appears of the commencement of the disease *de novo* in some individuals. What the originating causes in such instances are can at present be only matter of conjecture; they appear to be first and principally such climatic conditions, habits, or mode of life, as conduce to the formation of constitutions in middle life prone to low forms of disease. In the hope of throwing light upon this subject, Mr. Planck intends carefully to record the history and circumstances of all the lepers in some selected village.

Treatment
with gurjun
oil.

Several reports have been received from Madras on the results of treatment of leprosy with gurjun oil. The surgeon in charge of the Madras Leper Hospital bears testimony to the improvement in the general health of patients, and to the comfort which they derive from the use of the oil. He asserts positively that there was some improvement in every patient who was able to persevere in the treatment without interruption. He states, however, that the course of the disease is divided into various stages, each of which is characterised "by a group of symptoms or appearances," and that the absorption of tubercle and temporary return of sensation to parts previously numb may be "simply passing changes incidental to the natural course of the disease." After giving a brief summary of his experience in the use of the oil, he concludes by saying: "The gurjun oil does not possess any intrinsic value in the cure of leprosy. "As a cheap and unctuous oil, it is well adapted to carrying out the principle of "daily exercise instituted by Surgeon-Major Dougall, which, with other hygienic "conditions included in his mode of treatment of this disease, has done much good "in improving the health, condition, and general comfort of the patients. Internally "administered it is a useful purgative, described by the patients as producing a very "pleasant feeling of lightness and inclination for exertion, but if frequently repeated it "ceases to have this effect."

Another medical officer says that, "though gurjun oil may be an excellent remedy for "stimulating and healing leprous ulcers, thereby improving both the mental and physical "condition of the patient, yet it has no power over the constitutional disease."

Many of the other reports are to a similar effect. Some speak of cures, but in such cases there has of course not been time to test the permanency of the beneficial results. There is a general complaint of the difficulty of inducing lepers to remain for any length of time under the treatment.

Surgeon-General Balfour summarises the contents of these reports in the following words: "I have to observe generally that the results of the trial of gurjun oil have been "encouraging. Although it cannot be regarded as a specific, it is of great benefit in "relieving the more distressing symptoms of leprosy, and, as its use is associated with "various valuable hygienic measures, I regard it as one of the best modes of treatment "that have hitherto been brought to the notice of the profession. It is evident, however, "that its actual efficacy can only be ascertained by prolonged use in selected cases."

Careful experiments were carried out in the Agra Leper Asylum with the following results. The application of gurjun oil removed to a great extent the local manifestations, but exerted no specific influence over the constitutional taint or leprous cachexia. As far, however, as the local effects were concerned, ordinary sweet oil was found equally efficacious; and the conclusion was therefore drawn that the benefit experienced was due, not to the quality of the oil, but to the friction producing absorption of the deposits which are effused into the skin and cellular tissue during the course of the disease.

The gurjun oil treatment was fairly carried out at the Leper Asylum in Mysore, with the result thus expressed by the Deputy Surgeon-General: "As a therapeutic agent, it "has been found to improve the state of the skin, to assist in healing up leprous sores, "to corroborate somewhat the general health, and in some cases to recall sensation to "anæsthetic spots; but it has failed to produce any permanent amelioration, or to change "for the better the true leprous cachexia. Most of the patients are, however, averse "to the external use of the oil."

Work by
Dr. Carter.

Dr. Carter's notes of a professional tour in North Italy, Greece, and Palestine, together with the results of his researches in parts of the Bombay Presidency (see Vol. VIII., p. 49), have been printed at the expense of the Indian Government, as a continuation of his large work on Leprosy and Elephantiasis.

Delhi and Sind Sores.

The subject of the Delhi sore, and the proposed investigation by Doctors Lewis and Cunningham, were referred to in Vol. VII. (p. 43). Those gentlemen have now submitted their report, the leading conclusions of which are as follow.

The sore is practically the same as that prevalent in other parts of India, and at Aleppo, Biskra, Bagdad, &c., and therefore comes under the general designation suggested by Dr. Tilbury Fox of "Oriental sore."

It has been identified by Drs. Lewis and Cunningham with a form of cutaneous affection existing in Europe, and is considered by them to be probably one or other of the generally recognised forms of "lupus," although, owing to climatic and other local conditions, it may be in some degree modified from its European prototype.*

The occurrence of the disease appears to depend immediately on the nature of the water-supply. At Delhi the water in many of the wells is extremely hard, and is impregnated with a large quantity of salts. Although the salts which cause the hardness of a water may of themselves not be the actually deleterious ingredients, nevertheless, this quality may serve as an index of properties in it which tend to favour the production of cutaneous disorders.

Surgeon Bartholomeusz (in medical charge of 2nd Sind Horse) has submitted the following observations on the Sind sore:—

"The Sind ulcer may have either an idiopathic or traumatic origin; in the first instance as a small vesicle or papule, which suppurates and gives rise to an unhealthy, purulent discharge, gradually extending by undermining the tissues in the immediate neighbourhood, and forming sinuses under the integument. The ulcer having a traumatic origin generally supervenes upon ordinary injuries, whether it be a simple contusion resulting from the kick of a horse or the apparently trivial abrasion of the skin which follows the scratching of a mosquito sting. The ulcer which results (generally situated in one of the extremities) is characterised in both instances by defective action and low vitality of the part affected, and exhibits the extreme feebleness of the *vis medicatrix naturæ* of the whole system. In some instances the ulcer is filled up with hard warty granulations which appear above the surface of the sore, and which bleed profusely on section. Pain is not a prominent symptom. The ulcer takes a long time in healing, and when it does so it leaves a well-marked cicatrix, highly pigmented, and suspiciously resembling the scar which results from a syphilitic ulcer. I have not succeeded in obtaining any particular results by microscopical examination of the diseased structure, but the blood of the patient contained an excess of colourless corpuscles. With reference to the etiology of the disease, I am inclined to the opinion that the ulcer is merely a visible indication of the peculiar endemic constitution of the residents of Upper Sind, who are exposed to the depressing effects of a high temperature and the peculiar cachexy induced by malaria."

Venereal Disease.

The liability of venereal disease to seasonal fluctuations has attracted the notice of several authorities. Surgeon-General Balfour (Indian Medical Department, Madras) observed in his report on Madras Lock Hospitals for 1871: "There is an element to be considered, bearing on the causes of these diseases, of which I have no doubt, though it has not before been noticed in any printed book. It is that they are decidedly seasonal; the diseases are much more frequent in the cold weather of this country than at any other period of the year; and it is probable that the prevalence may be greater in some years than in others."

The Army Sanitary Commission remarked in 1873 (*see* Vol. V., p. 247): "In estimating the result of preventive measures it would be well to take into consideration other circumstances than those arising out of single personal communication."

Dr. J. Cunningham states, in his last report on Lock Hospitals in Bengal, that venereal disease is, apart from the effects of any precautionary measures, liable to very great fluctuations."

* It should be mentioned that both Dr. Tilbury Fox and Sir J. Fayrer dissent from this conclusion. The latter states: "If there were no other difference, the fact of its evident dependence upon the drinking of certain water would be sufficient to distinguish it."

And the medical officer in charge of the lock hospital at Secunderabad observes, with reference to the passage just quoted, that its truth will be evident from the following table of venereal statistics at that station for the last few years :—

	Strength of Force.	Admitted.	Per 1,000.
1870	2,172	290	133·51
1871	2,237	448	200·26
1872	2,550	488	191·36
1873	2,411	270	111·98
1874	2,459	276	112·24
1875	2,282	512	224·36

In his report for 1875 Surgeon-General Balfour observes on this subject :—“ If future inquiries establish the correctness of this as a law, it will follow that the occurrence of no one year can be taken as a datum to discuss the subject of the beneficial effects of these institutions, but that the results of a series of years are needed for comparison of one station with another.”

India Office,
30th July 1877.

HENRY HILL.

ABSTRACTS
OF
SANITARY AND OTHER REPORTS
FOR
1875.

ABSTRACT OF REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1875.

(*Dr. J. M. Cunningham.*)

SECTION I.

CHOLERA EPIDEMIC of 1875.

AMONG the European troops throughout India in 1875 the cases of cholera numbered 288, of which 201 were in Bengal, 7 in Madras, and 80 in Bombay. The deaths from this cause were 136 in Bengal, 4 in Madras, and 54 in Bombay, or a total of 194,—giving ratios of mortality of 3·66 for Bengal, ·36 for Madras, and 5·30 for Bombay, or a total of 3·32 per 1,000 for the European Army of India. The highest of these compares favourably with those of other epidemics. In Bengal, for example, in 1872 the loss from cholera was 10·66; in 1869, 16·46; in 1867, 13·84; and in 1861, 23·73 per 1,000. These figures refer to the men only. Among the Native troops in Bengal in 1875 there were 142 cases, of which 69 were fatal.

Distribution
of cholera in
1875.

In this section I propose to summarise the evidence which has been furnished by medical officers in their special reports, and to consider how far it adds to our knowledge. But before turning to the instructive facts which these reports contain, the general history of the epidemic may be studied with advantage, and as the first step to this it is necessary to recapitulate very shortly the main events of the previous year.

In 1874 there was considerable prevalence of cholera in Lower Bengal. The fact is corroborated by the statistics of Calcutta, where the mortality from this cause exceeded that of any year since 1870. The returns for Assam, which have been received since the last Report was written, show that over that part of the country also cholera was prevalent. Out of a population of nearly 4 millions, 16,478 deaths were registered as due to it. In British Burma, also, there was some prevalence of the disease; but with these exceptions cholera in 1874 was singularly dormant over the whole peninsula.

Very different has been the history of cholera in 1875. Excepting British Burma, which returns only 761 deaths in 1875 instead of 960, and of Assam, which returns 6,618 deaths in place of 16,478, there has generally been a marked increase in the disease. In the Lower Provinces it was more active, and, extending far beyond the limits of these provinces, it covered most part of the country and affected certain portions of it with great severity. The general results are shown in the following statement. The mortality has been very heavy in many of the provinces, and it is all the more striking when compared with the immunity of the previous year.

	Total deaths from cholera.	
	1874.	1875.
Bengal Proper and Assam - -	73,354	116,606
North-West Provinces - -	6,396	41,106
Oude - - - -	68	23,321
Punjab - - - -	78	6,246
Central Provinces - - - -	14	14,643
Berar - - - -	2	22,465
British Burma - - - -	960	761
Madras and Mysore - - - -	313	97,051
Bombay - - - -	37	47,573
Rajpootana, Hyderabad, and Central India - - - -	4	14,649

In endeavouring to understand the history of cholera, and to form any sound conclusions as to its cause or causes, the vast differences which characterise epidemic and non-epidemic years must be prominently borne in mind;—are the causes to which epidemics have been ascribed in any degree sufficient to account for such differences?

The statistics show that the prevalence of the disease in Bengal proper was general, but most marked in the southern and eastern portions. In the North-West Provinces the violence of the epidemic fell chiefly on the eastern districts. Some of those on the west also suffered severely. Of those bordering on the Jumna, Jhansi and Lalitpur almost entirely escaped. In Oude the disease was very general and severe. In the Punjab the chief point worthy of notice is that the province suffered only in its lower part. The districts above Lahore, except Sialkot and Gurdaspur, return only a very few isolated cases. As regards the Central Provinces, it is important to note that many of the districts escaped with little or no cholera. Jubbulpore returns only 11 deaths, Seoni only 3, Mandla 47, Nursingpore 93, Murwara 26, Damoh 0, Saugor 20, Balaghat 4, and Upper Godavery 20. As the population of each of these districts varies from 24,000 to nearly 400,000, the proportion of deaths in them due to cholera was thus very small. It was on Raipur and Bilaspur on the south-east, and on Nagpur and Wardha in the south, that the brunt of the epidemic in the Central Provinces fell. These four districts alone account for 11,100 deaths out of a total of 14,643 in the whole province. In Berar the disease was severe and widely diffused. The suddenness of its onset is remarkable. During the first four months of the year not a death from cholera was registered; in May there were 249, and in June 3,625. In the Bombay Presidency the whole country was affected to a considerable extent, except Kanara in the south, where only 47 deaths were registered, and Sind in the north. For Upper Sind the return is blank, while Thur and Parkur and Kurrachee return in all only 49 deaths. The Madras statement so far corroborates the accuracy of this account, for South Kanara, which adjoins the Kanara of Bombay, was almost entirely free of the disease. Vizagapatam escaped entirely. In the Godavery and Kistna districts, also, there was little, but over the other parts of the Madras Presidency the people suffered much. The epidemic here, it will be observed, was in the main confined to the latter half of the year.

The areas of prevalence, it is to be observed, are not the areas through which the great highways of traffic lead, nor are the exempted tracts those which are removed from the great lines of communication. Over great part of the country in which cholera was most severe there are no railways, and the roads are often indifferent. Through part of the Central Provinces which escaped one of the great trunk lines of railway, on which there is much and constant traffic, runs. In the Upper Provinces the extension of the disease was not along the high road, but over an area where the means of communication are comparatively difficult and little used.

In looking at the statistics of the districts included in the epidemic, it must not be supposed that the disease was universal, or that it affected every portion of the population. The popular impression with regard to cholera seems to be that when once it attacks a district it spreads from village to village until all have more or less suffered. But this idea is altogether a mistake. In most of the districts where cholera prevailed the villages attacked were the exception, and even in those parts where it was most prevalent, and where it, beyond all question, attained the proportions of a very severe epidemic, many towns and villages escaped.

To take a few examples. In Bengal proper, the district of Burdwan returned 2,127 deaths from cholera in 1875; they were reported from 198 out of a total of 5,191 villages. The district of Nuddea suffered severely; 9,948 deaths from cholera were registered, but of 3,961 villages only 1,001 suffered. In Hazareebagh only 270 fatal cases were reported during the year, but they were spread over 8 months, and occurred in 38 out of a total of 6,703 villages. In Oude the epidemic, as already stated, was very severe. In Gonda there were 3,806 deaths, but of 2,840 villages only 664 were attacked. In Baraich 3,376 deaths were reported from 581 out of a total of 1,943 villages. In Hardoi 2,973 deaths were reported in 365 villages; the total number of villages in the district being 1,976. Yet in all three districts the disease was present for the greater part of the year. In the Punjab the fact of partial distribution is even more strikingly exhibited, as the epidemic in this part of the country was less violent. These instances are cited merely as illustrations. Nor are the phenomena to be explained on the supposition that the disease was confined to one portion of the district, and that the total number of villages attacked in each really represents those lying close to one another in a particular quarter. In Burdwan 21 out of 28 of the circles into which the district is divided for the purpose of mortuary registration were affected; in Nuddea 31 out of 33. In Noakholly all the 8 were attacked. In Umritsur, though 10 of the circles returned cases, only 107 villages were attacked out of 1,024. Similar results may be seen in the returns from every other part of the country.

The Sanitary Commissioner of the Central Provinces, in forwarding his return, observes that many of the villages are mere hamlets consisting of a few houses, but this does not affect the comparison. The question to be determined is how many different communities out of the total of each province were affected by the disease, and in this point of view it matters little whether these communities are generally large or small. It may be urged that the statistics understate the facts because they refer only to those places from which deaths were reported, but with such a fatal disease as cholera any error due to this cause must be small. Or, again, it may be said that the registration is not to be depended upon, and that many deaths have been omitted. The registration is by no means perfect, but the contrast between 1875 and 1874, which has been already so fully discussed, is itself evidence that the returns are by no means so faulty as is supposed. The comparison of contiguous districts, whether in the same or adjoining provinces, tells a story which could not have been pre-arranged, and which bears within it most convincing proof of general accuracy. But the strongest grounds for believing that these returns, illustrating the very partial distribution of cholera even within the limits of a severe epidemic, are substantially correct, is that it accords entirely with what is known of the disease as it appears under the most intelligent medical observation. The distribution of cholera among villages as shown in these returns is not in any degree more remarkable than its distribution in cantonments or jails or towns, where the number of barracks or other dwellings attacked can be ascertained beyond all doubt.

The history of cholera among the people in the different provinces will be more fully recorded by their respective Sanitary Commissioners. It will suffice here to discuss the details of the outbreaks in cantonments and jails, and as the facts regarding them came under the immediate observation of medical officers, their reports afford a mass of evidence of much more value than any that could be gathered from the general population of the country, among whom educated practitioners are as yet almost unknown. To save space, and to avoid all needless additions to cholera literature, which has already become so voluminous, these reports are summarised as succinctly as possible in the "notes on individual outbreaks" which are given in an appendix to this Report. These notes have been prepared on nearly the same plan as those attached to the Report for 1872. They include every report which has reached me, and embrace every fact of the smallest importance which these reports contain. All that can be attempted here is to summarise the facts.

Notes on
individual
outbreaks.

The notes refer to 40 different stations scattered over a very large area. Commencing with Barrackpore and Eastern Bengal, they pass on to Upper Bengal, to the North-West Provinces and Oude, to Central India and the Lower Punjab, beyond which, as has been already shown, the epidemic did not extend in that direction. At these 40 places, 67 different communities suffered more or less from cholera. They consist of 37 European corps, 26 Native corps, 2 jails, the Thomason College at Roorkee, and the Simla sanitarium. Unfortunately from many of the jails no reports have been received, and the record is therefore not so complete as it would otherwise have been. But the facts recorded are still very numerous; they refer to 611 cases of cholera, which were treated in hospitals under the immediate care of many medical officers, of whom 66 furnish the reports. What, then, is the evidence derived from this large body of independent observers? It may be conveniently summarised under the four heads—

1st. The meteorology of the period when cholera was present;

2nd. The influence of contagion as exemplified either in the first appearance of the disease in each community or its subsequent spread;

3rd. The sanitary defects of the place; and

4th. The effect of movement from the locality attacked in checking the disease.

The effect of other measures which were adopted to prevent its entrance will be separately considered.

On the first of these points—the meteorology of the cholera time—the information is scanty and imperfect. In many of the reports it is not noticed at all, and in others the data are vague and unsatisfactory. This arises no doubt in great part from the want of proper instruments, but even in such a simple matter as the direction of the wind the statements are often indefinite and sometimes even contradictory. Generally heavy falls of rain and the unusual prevalence of east wind are noted, but this is not invariably the case. In some places the chief peculiarity was the stillness of the atmosphere. At Gwalior the prevailing wind is reported to have been from the south-west, and at Ferozepore it is said that there was a light wind from the west. Here the disease was

Influence of
meteorology.

confined to a few cases in the cantonment. The district did not suffer. At Sirdarpore, again, the rain is described as unusually light, and the absence of electric phenomena is remarked. Much valuable information on meteorological conditions, in connexion with the prevalence of disease, can hardly be expected from medical officers who are provided with no special means of observation. What peculiar features characterise a cholera-epidemic year as contradistinguished from a non-epidemic year the Meteorological Department of India which has been recently organised may, it is hoped, in time be able to explain.

Question of
contagion.

In regard to none of the 67 communities affected with cholera is there sufficient evidence to show that the outbreak was due to importation. At Agar the only person attacked had come two days previously from Oojein, where cholera was prevailing; in other words, the causes of cholera to which he had been exposed at Oojein apparently did not produce their results until after his arrival at Agar, but there was no spread of the disease. The causes of cholera which existed at Oojein do not seem to have existed at Agar, and the seizure of the one man who was attacked to all appearance in consequence of his having been at Oojein was insufficient to produce any further case. This solitary instance, out of the total of 67, affords an illustration of how cholera may be imported and cause no outbreak. The remaining 66, on the other hand, are examples in which outbreaks occurred without any proof that they were due to importation. In many of the reports the disease is ascribed to importation merely because cholera was more or less prevalent in the vicinity. In the 73rd Foot at Cawnpore, for example, it is attributed to indirect communication with cholera-stricken persons by means of the native servants. In the 35th Native Infantry, at the same station, it is explained by the fact that the first man attacked had only just returned from leave. In the 1-18th Foot at Moradabad, the punka coolies are supposed to have been the medium of communication. In the Royal Artillery at Meerut the barracks were under repair; native workmen were thus about, and moreover some of the hospital establishment resided in a neighbouring village where cholera prevailed. At Dharmasala travellers from Jawalamukhi and Mundi are credited with having introduced contagion. But in none of these or in any one of the 67 bodies concerned, except Jubbulpore, to which reference will be made hereafter, is there any attempt to prove by evidence that the resident in the locality who was first attacked had suffered in consequence of communication, either direct or indirect, with some individual, whether ill of cholera or in good health, who had come from an affected locality. The prevalence of cholera in the vicinity seems not unfrequently to be considered sufficient proof of importation, especially where, as is generally the case, communication, in spite of any attempts to the contrary, continued to a great extent unrestrained; but however strongly an opinion founded on such grounds may be expressed, it is merely an opinion. In some instances the circumstances were adverse even to this theoretical view. In Kasauli, for example, there had been no cases of cholera among the natives before the Europeans were attacked. Although the Europeans suffered severely, the bazaar remained free of the disease throughout, and the only cases among natives were a few chiefly among the servants who were most exposed in camp. So far as is known, at Ferozepore there was no cholera among the natives when the disease attacked the European troops in the cantonment; and at Meean Meer the natives did not suffer at all.

The only one of the military attacked at Jubbulpore was a sepoy of a Bombay regiment who was rejoining from leave. His illness commenced in the train; he arrived at Jubbulpore on the 27th August, and next day applied for relief at the hospital of the 16th Madras Native Infantry. He was placed in a separate building and then transferred to a tent close by. A few days afterwards cholera broke out in the village of Katinga, which is about 300 yards distant, and there were in all 10 cases reported in it. This village is on the banks of a small stream which passes by the hospital, and it was supposed that the outbreak was due to the water having been polluted with the discharges of the sepoy, which the sweeper, instead of burying as he was ordered to do, may perhaps have thrown on the ground. But there is no evidence on any of the points required to substantiate the story. It is not known that the sweeper had thrown the discharges on the ground. The people do not drink from the stream, but from *jiriah*s or wells sunk near it. The water was very foul and the whole village very dirty, but it is not probable that any impurity, even if it had found its way into the stream, could have percolated into these wells. The facts so far as they are known may be regarded as favouring the idea that the outbreak in the village was in some way due to communication, but the most important particulars are too vague to be of much value in determining this matter.

On the subject of importation the evidence must often be more or less indefinite, but the question whether the disease spreads from the sick to the healthy admits of much more precise investigation, especially in these days when cholera patients under medical supervision are carefully isolated, and it is well known what persons come in contact with them. Assuming for the sake of illustration that cholera may be carried by human agency, there must always be difficulty in discovering how this has occurred, whether by direct communication with affected towns or villages, or indirectly by means of the native servants or supplies. But the probabilities of the outbreak having been due to the arrival of a person affected with cholera, a matter of fact in regard to which, especially in this country, there must often be necessarily more or less conjecture, may be weighed to some extent, and estimated more nearly at their real value, by considering what occurred in the case of attendants on the sick who came under medical observation, and in regard to whom all is known with comparative accuracy.

In 59 of the 67 communities among whom cholera appeared, not one of those coming in contact with the sick suffered at all. In some of them the number of cases was small, but in others it was considerable. For example, in the 51st Foot at Fyzabad 24 cases occurred; in the 65th Foot at Lucknow 16 persons were attacked; in the Malwa Bheel Corps there were 21 cases; in the 4th Battalion, Rifle Brigade, at Umballa, 33 cases; and at Simla 58 cases were treated in the cholera hospital; yet in none of these or 54 of the other outbreaks did a single attendant suffer. In 8 of the 67 communities certain of the hospital servants or of the friends who nursed the sick were attacked. In all there were 22 such cases, and it will now be necessary to examine the facts recorded in regard to each of them somewhat in detail.

The first on the list is the 1st Battalion, 25th Regiment, which arrived at Fyzabad from England on the 25th November 1875. Two women were the only persons attacked. In regard to the first it is noted that there is a complete absence of any communication to account for the disease; "not so the second, for here there is plain evidence of communication. The second woman came from a different block, accompanied her friend to hospital, and stayed there for some time ministering to her. Twenty-four hours after being sent away she herself displayed the disease." In the 13th Hussars, at Lucknow, a man attacked on the 22nd September "had been attending his wife in one of the cholera tents from the 14th. The woman had been in a separate tent throughout, and had been moved into a clean tent when convalescent four days before her husband was attacked." In the 1-18th Foot at Moradabad it is stated that a mother attending her child was herself seized. She, however, was ill previously with diarrhoea. The fifth case in this regiment was the father of the other child seized. The child was attacked at midnight of the 4th September and sent to hospital at 6.30 on the 5th. When the child was removed to hospital, the father was transferred to another quarter, and all communication between them ceased. He was attacked at 6.30 P.M. on the 8th. The quarter he occupied then was a building at the other end of which one of the first cases had occurred. The mother, it may be added, nursed the child throughout and did not suffer. A dresser attached to the Royal Artillery hospital at Meerut was attacked. In the Meerut central prison the second case was that of a hospital sweeper. In the 10th Hussars at Muttra, during the first outbreak, a hospital apprentice suffered from painless diarrhoea, and a sweeper was attacked. At Kasauli in three cases parents, after attending their children, were attacked, two in camp and one in the station. The report of the 1st Goorkha Regiment at Dharmsala cites 11 instances in which hospital servants or friends coming in contact with cholera cases were themselves attacked; 8 were attendants on the sick, 2 were doolie bearers, and 1 the hospital compounder.

But small as the number is, the bare statement that 22 attendants on the sick suffered from cholera would convey a very erroneous impression of the facts, for there are other important circumstances connected with many of them that must be taken into consideration. Passing over the cases of the woman in the 1-25th at Fyzabad, and of the man of the 13th Hussars who nursed his wife at Lucknow, there come the instances cited in the 1-18th Foot at Moradabad. One of these is admitted by the medical officer to be more than doubtful, because the woman had been ill of diarrhoea previous to attendance on her child. In the other, the father is with his child for $6\frac{1}{2}$ hours; he is removed to another barrack, in the end of which a previous case of cholera had occurred, and has no further communication with the child. He had taken no food and had not slept for three days before he was attacked. It is not stated if the sweeper in the Meerut jail had had any communication with the only other case which had occurred when he was seized. At Kasauli the cases of three parents attacked are complicated by their recent arrival in camp from the station where the disease prevailed. At Dharmsala the 8 attendants, 2 doolie bearers, and 1 compounder attacked were from among a total

of 127 persons who came in contact with the sick. The outbreak among the Goorkhas at Dharmsala was very severe. There were, in all, 97 attacks in a strength of 1,200, or in the proportion of 8.08 per cent.; and of these 11 were cases of attendants. The proportion of attacks among the attendants was almost the same as among those who did not come in contact with the sick. This is very remarkable, for the attendants were treated on a different principle from any other part of the regiment. In the bazaar and lines each hut, on a case occurring in it, was vacated and cleansed, but no such procedure was adopted with the building occupied by the attendants. The cases among them were attributed to contagion, and the building was not vacated. If there is any virtue in the rules requiring the immediate evacuation of every building in which a case of cholera occurs, the attendants in this instance ought to have suffered far more than the regiment generally. That they did not suffer much more than the regiment appears to have been due to the fact that the movement into camp was so unsuccessful. Instead of moving away from the disease the site occupied by the camp seems to have been even more exposed to it than the lines. The evidence in support of personal contagion which is adduced from this outbreak at Dharmsala seems thus to tell very strongly against it. In not one of the communities in which an attendant on a cholera patient was himself attacked is there evidence to make it even probable that the disease was contracted from the sick. The question of contagion can never be decided by individual cases. It is only by taking the statistics as a whole, and ascertaining whether the proportion of attacks among those who come in contact with the sick is decidedly greater than among those who have nothing to do with them, that any sound conclusions can be drawn. The facts of the outbreaks of 1875 afford no such evidence of contagion among the hospital and other attendants; on the contrary, they testify strongly in quite the opposite direction. In none of the outbreaks is there any history of such attendants having suffered in any exceptional degree. In no instance is there the smallest ground for believing that the sick formed the centre from which others were affected. The first few cases occurred often almost simultaneously in different buildings, at considerable distances apart, and occupied by persons who had no connexion with one another. The other attacks have followed without any apparent relation to those which had gone before.

It may be urged that the escape of the attendants and hospital establishment is only what might be expected from the use of disinfectants, which is now generally had recourse to by those who come in contact with the sick, but this immunity is no new feature in the disease. It has been exemplified for years before disinfection was practised, not only in the Calcutta hospitals, but in other parts of the country. Writing in 1856, Dr. Kenneth Mackinnon quotes the experience of Dr. H. A. Bruce on this point. "In 1848," he says, "I had cholera in the Fusiliers (at Cawnpore) from May till September. During the whole of that time, I may say, the hospital was never free of some cases, and at times it was crowded with them. The whole establishment may be said to have lived in the wards; the coolies for hours together never left the beds of the patients; the medical officers did nothing but administer to their wants; and yet not one man, European, half-caste, or native, ever showed the least symptoms of cholera. I took most particular care to have them mustered and looked at, but there was not in that year even a case of bowel complaint among them." This quotation is but an example of what has been observed again and again long before disinfection in cholera cases was ever thought of.

The singular escape of the hospital establishment and other attendants on the sick in 1875 is all the more remarkable because they were often exposed to depressing influences, such as the want of rest and regular meals, anxiety, and grief, all which predispose to disease, and in these days, when the dangers of personal contagion are so generally inculcated, they were no doubt in many instances also subject to the additional depression of fear, which has long been recognised as peculiarly favourable to the development of cholera.

The evidence as regards the attendants would be more satisfactory if the actual number of those who came in contact with the sick were known. The value of such details has already been illustrated in the case of Dharmsala from which they were specially obtained. Unfortunately this information is not given in the reports of medical officers, but in future they will contain replies to the following questions: How many individuals, including medical and other officers, hospital assistants, orderlies, and others, both European and native, attended on the cases of cholera which occurred, and of these how many were attacked with cholera and on what dates? Of the sweepers employed in collecting and removing cholera excreta (who should also be included in the above) how many were seized with cholera? Were the circumstances connected with any of these attacks such

as to lead to the conclusion that the persons in question were attacked because of such attendance?

Other possible examples of contagion may now be examined. The first instance is that of the sirdar coolie employed by the Royal Artillery at Lucknow "in removing infected clothing." He was attacked. The case is not cited by the medical officer as an example of contagion. On the contrary, he writes: "This man was terribly afraid of cholera, and the fact of his having contracted the disease does not prove that it was communicated to him in the cholera hospital. None of the regular attendants on the sick were attacked." In the 11th Hussars at Muttra, the only man seized during the second outbreak in August, it is suggested, may have contracted the disease by having in his possession a waist-belt which had belonged to the man attacked on the 21st April. The quotation given in the notes regarding the 54th Regiment at Morar narrates what are considered instances of contagion. A father and daughter were attacked. Of two women and seven children in a tent, two women and two children were attacked between 10 A.M. of the 29th August and 7 A.M. of the 30th, and there were six seizures in hospital tents. Again, a mother, having attended one of her children on the 30th August, is believed to have communicated the disease, either directly or indirectly, by her husband, to another of them, who was attacked on the 9th September. In the Gwalior Fort cases Nos. 3 and 5 are ascribed to case No. 1, because they were for 10 hours in the same room where No. 1 was seized; and case No. 6 is also attributed to the same cause, as he had been located in the same barrack as men who had been in the same room as No. 1. At Kasauli, a man, admitted into hospital with diarrhoea on the 7th July, was attacked with cholera on the 9th, and the hospital sweeper's child also suffered from the disease. At Dharmsala, a water-carrier is believed to have contracted the disease from a previous case. At Meean Meer a man was attacked the morning after he had removed soiled bedding and clothing. For details of these cases reference must be made to the "notes;" and from them it may be seen how far they deserve serious consideration. The cases brought forward in the 54th Regiment at Morar are opposed to all ordinary ideas of contagion. The father and daughter were attacked within a few hours of each other, so were the four persons in the tent. As for the six cases in hospital tents, there is no evidence of any of them having been in contact with the sick. Similar remarks apply to the three cases at Gwalior. At Dhurmsala the first case, and the water-carrier, who is believed to have contracted the disease from it, were attacked within a few hours of each other.

The "notes" include mention of any sanitary defects which have been noted in the medical officer's report. In many places everything is said to have been in a satisfactory condition. In others there was a want of proper drainage, and in a few there was overcrowding. It is worthy of notice that in regard to only two outbreaks is it even suspected that the water may have been contaminated with cholera discharges and thereby have caused the disease. The first is the case of Jubbulpore, in regard to which it has been shown that there is no evidence either that the water had been so contaminated, or that it had been drunk by the people affected. The second case is that of Dharmsala, but here, although the medical officer suggests that this contamination of the water-supply may have taken place, he himself sets the idea aside as to all appearance an impossibility.

Local causes
of cholera.

As a whole, the evidence is strongly in favour of the immediate evacuation of buildings or particular quarters in which a case of cholera may have occurred, and of moving into camp away from the affected locality. In many instances no case occurred among the parties thus removed into camp. There were none, for example, in the camp of the detachment of the 109th Foot at Chunar, of the jail at Fyzabad, of the 40th at Lucknow, of the 73rd at Cawnpore, of the 1-5th and the 34th Native Infantry at Allahabad, of the 55th at Delhi, of the Royal Artillery at Morar, of the detachment of the 63rd at Nowgong, or of the detachment of the 81st at Dharmsala. In other instances, again, as in the 51st Regiment at Fyzabad, the 65th at Lucknow, the 1-18th at Moradabad, the 55th at Roorkee, and the 63rd at Gwalior, the disease in camp was limited to one or two cases occurring generally within a short time after removal. The experience of the Thomason College at Roorkee, and of the Royal Artillery at Meerut, was not quite so favourable, and still less so that of the 54th at Morar, the Rifle Brigade at Umballa, and the 1st Goorkhas at Dharmsala. At Kasauli, although 12 cases occurred in the camps, they were chiefly among new arrivals from the station in which the disease prevailed. But even in those instances which were attended with least success strong testimony is borne to the advantages of movement, not only as the best means of checking the disease, but also as a measure which is most beneficial in inspiring confidence, and raising the spirits of the troops and others among whom cholera may appear. In no

instance are any ill effects of any consequence attributed to the exposure in camp. As a rule, the health of those in camp did not suffer at all, and in not a few instances it appeared to be benefited by the change.

Question of quarantine.

Quarantine found no place in the Report of the Special Cholera Commission of 1861, or in the rules for the management of troops in epidemic years which were based on their recommendations; but gradually, under the force of popular belief in the contagious character of the disease, endeavours have been made of late years to protect certain stations by isolating them as much as possible from the surrounding country. The experience of cantonments in this matter has been made the subject of special investigation and the main results may be briefly stated. The system varied much in different places. In many no restrictions whatever were imposed. In three of them pilgrims only were diverted. In others cordons were drawn round the station to prevent all persons ill from cholera from entering, and generally to stop communication with affected localities. In regard to only six—Nowgong, Nagode, Chukrata, Kasauli, Dagshai, and Subathu—was any attempt made to carry out what may be called quarantine. At these places natives desiring to enter were detained under observation for periods varying from three to ten days, but even in them it was impossible to cut off all communication. Supplies came in, the post was delivered as usual, but in most of them the supplies and the letter bags were deposited at the barrier and brought on by persons from within. At some places, such as Mooltan, Jullundur, and Hyderabad in Sind, restrictions were imposed, although there was no cholera in the neighbourhood. They did not suffer from cholera, but it would be absurd to attribute any immunity they enjoyed to these restrictions, when the population of the district as a whole enjoyed equal immunity without any supposed protection of the kind.

Leaving these places out of account, the cantonments of the Bengal Presidency which lie within the area of the epidemic of 1875 may be divided into two great classes,—those where no quarantine or other measures of the kind were attempted, and those where such measures were more or less in force. In the first of these categories come 25 places, none of which suffered to any great extent. Some, as Segowlie and Solun, escaped altogether. In others, such as Ferozepore, Meean Meer, Delhi, Roorkee, and Bareilly, the outbreak was limited to a few cases. Allahabad suffered most, but even here the cases among European troops were only 11 and among Native troops 16.

The facts regarding the cantonments in Madras and Bombay have not been so fully ascertained as those for Bengal. So far as they are known, they entirely accord with the experience gained on this side of India, but it will be more satisfactory to leave them out of account. For the purpose of illustrating the subject, and of giving an opinion as to the benefit to be derived from the so-called quarantine, the statistics of Bengal afford ample evidence.

Of 29 Bengal cantonments which lay within the epidemic area of 1875, and where restrictions more or less stringent were imposed, 20 suffered from cholera. In these 20, therefore, it is self-evident from the results that the restrictions did not succeed in keeping out cholera; the quarantine was a failure. Many of them suffered much.

Nor can the escape of the 9 be in any degree attributed to the protection of quarantine. In order to form any sound opinion on this point, it is necessary to consider the evidence as regards each in the light of former experience. During the period from 1864 to 1875 the troops at Banda enjoyed remarkable immunity from cholera. There were two cases in 1864, one in 1865, and two in 1869, or a total of five cases during 11 years. At Nagode, during the same time, there has been but one case among the troops, and that was in 1873. Chukrata is in the hills. It has never suffered from cholera, except to the extent of one case in 1870, and five in 1872, of which two were fatal. At the neighbouring station of Landour, which occupies a similar elevation and was in much more close relations with affected localities, there were no restrictions, and yet there was no cholera. If Landour without restrictions had suffered, and Chukrata with its attempt at quarantine had escaped, there would have been some ground for inferring that the protective measures had been useful, but as both were equally free of the disease, the escape of Chukrata is no evidence that any benefit was derived from them.

Futtehgurh, at first sight, would seem to be a case in favour of quarantine, for the country in the neighbourhood suffered much in 1875; but, setting aside the necessarily imperfect nature of the attempts to prevent intercourse, there is the evidence derived from the previous history of the cantonment, and this is very remarkable. The district is subject to cholera, but during the 15 years from 1860 to 1874 without quarantine there have been in all only 18 cases among the European troops, viz., 1 in 1860, 11 in 1861, 1 in 1866, and 5 among women and children in 1872. Among Native troops,

from 1866 (the earliest year for which they appear in Dr. Bryden's tables) to 1874—a period of nine years—there has been one case of cholera, and that was in the great epidemic of 1869. Little credit, therefore, can be taken for quarantine at Futtehghurh in 1875.

Dagshai, Subathu, and Jutogh are the next cases of exemption which claim notice, and, as they lie near one another in the Himalayas, they may be considered together. If the neighbouring stations of Kasauli and Simla had not suffered in 1875, the exemption of these three places would require no notice. Hill stations rarely suffer from cholera. In 13 of the 33 years from 1843 to 1875 cholera has appeared at Subathu, but generally in isolated cases. In 7 of the 13 years it caused no deaths; only three times can it be said to have been epidemic in all that time—in 1845, 1867, and 1869. During the 24 years from 1852 to 1875 Dagshai has only twice suffered from an epidemic of cholera, but isolated cases have occurred in four of the other years. Jutogh has never suffered from the disease. Moreover, the quarantine here was merely nominal. Officers went backwards and forwards between Jutogh and Simla daily. As regards natives, the procedure adopted is thus described: "Natives wishing to enter, if seen by the sentries, were turned back, and obliged to wait three days before being admitted; for this period they were permitted to reside in the village at the foot of the Jutogh Hill." At Kasauli in only 3 of the 33 years from 1843 to 1875 has cholera appeared in any force; in 6 of the others one or two cases have been reported. To ascribe the protection from cholera which Dagshai, Subathu, and Jutogh enjoyed in 1875 to the restrictions imposed on human intercourse is to ignore altogether their previous history and the immunity they enjoyed for years without any such restrictions. There is no connection established between the restrictions and the escape or non-escape of any of them from the disease. Kasauli with quarantine suffered heavily. Subathu, Dagshai, and Jutogh, with it, escaped; but so did Solun, which lies in the midst of them, much more exposed to intercourse than any one of the three, and which yet attempted nothing of the kind.

Dalhousie and Bakloh alone remain to be considered among the places where it is supposed that measures of the nature of quarantine prevented the entrance of cholera. But neither of them ever suffered from cholera without quarantine, and there is no evidence that the disease was kept out of either by any such measure in 1875. The restrictions adopted at Dalhousie in particular were not such as could have had much influence on the result, for they amounted merely to ordering all new arrivals to report themselves at the hospital for two days after coming up. It was quite impossible to enforce any such order. I do not here refer to the measures taken with regard to the small isolated outburst of cholera in the outskirts of cantonment, but, before attributing any benefit to them, it must be remembered that the Chumba State, in which Dalhousie lies, has never suffered from an epidemic of cholera within the memory of those now living.

The case of Bhagsu also has been cited as a crucial illustration of the undoubted benefits of quarantine. The officer commanding at Dharmsala does not give an opinion to this effect; on the contrary, he says that, with all the supplies required for the British troops in that part of the station which goes by the name of Bhagsu, quarantine is an impossibility. But, when cholera appeared at Bhagsu on the 12th August, it was attributed to the fact that the quarantine had been taken off on the 8th. I enquired very carefully into the particulars during my late tour. As a matter of fact, the quarantine was not taken off. It was relaxed so far as to allow the men to go for a walk in the upper station. The quarantine was broken by a boy bringing in milk; he was seized with cholera on the road, and to this the outbreak is ascribed. But, long before cholera appeared in unmistakeable form, diarrhœa had been extremely prevalent among the men. In July and August, before the first case of cholera declared itself, there were 24 admissions into hospital from diarrhœa out of the small strength of 121 men. Some of these cases were very severe and attended with vomiting. One case nearly proved fatal. Besides the actual admissions from diarrhœa, many more received medicine for the same symptoms without being taken into hospital. This remarkable prevalence of diarrhœa at a place where the complaint is by no means common can only be accounted for on the supposition that the causes which produce cholera were at work in a milder form for some weeks before cholera actually appeared.

But it is urged that quarantine is valuable if it only postpone the outbreak of the disease for a few days. No doubt this would be a gain; but is there the smallest evidence that any such benefit accrued in 1875? The remark is made with reference to Lucknow, but the facts which have been recorded with regard to this station show perhaps more clearly than any others in the whole list how altogether useless the system is. Much stress has been laid on the results obtained in this cantonment,

and it is therefore important to examine the facts somewhat in detail. It is argued that the epidemic was most virulent in the surrounding districts, and that, in consequence of the quarantine arrangements, the cantonment was comparatively free from its ravages; and again, it is said that, "bearing in mind the fearful mortality in Oude, the comparative immunity from cholera in cantonments, and its late appearance among the British troops, it is hardly possible to attribute these results to mere chance." No doubt the district of Lucknow suffered heavily; yet of the 246 villages within 10 miles of the station only 48 return deaths from cholera; and, what is more remarkable, 26 of these return the date of the first case as later than the 20th April, the day on which the first case occurred in cantonments, leaving out of account the case in the 41st Native Infantry which was admitted into hospital so early, in the year as the 11th February. But did the quarantine confer any immunity on the cantonment which it had not enjoyed equally in former years when nothing of the kind was attempted? The statistics of cholera among the troops at Lucknow during April and May in each of the last 12 years show that during these months, of 1875, the time when quarantine was in force, the cantonment of Lucknow suffered really more than it had done in any of the previous 11 years without quarantine, and yet several of them were years of great epidemic prevalence in the Lucknow district and in Oude generally. The late appearance of cholera among the European troops in 1875 was merely the repetition of what has again and again occurred.

In order to prove that quarantine or any measure of this nature is really productive of good, it is necessary to shew—first, that, judging by former experience, a danger threatened; and, secondly, that this danger was averted; but in no instance has any such proof been afforded. On the contrary, there is the general and very significant fact that, within the area in which cholera prevailed, the places where no such measures were tried on the whole suffered much less than those where they were in force. It may be said that many of the places where the measures were not taken lie within or bordering on the endemic area, but cholera, even in the delta of the Ganges, is precisely the same disease as it is anywhere else.

In basing any opinion on the mere fact that a cantonment where restrictions were imposed was not attacked, regard must be had not only to the previous history of each place, to which attention has been already drawn, but also to the incidence of the disease in the neighbourhood. The partial distribution of cholera has been already illustrated by reference to the statistics of villages over whole districts. The same fact is borne out by the experience of the villages near cantonments. The proportions differ considerably, but all attest the same truth, that the few are attacked and the many escape.

The objections to the restrictions are many and great. The quarantine can be a quarantine only in name. Any one who really desires to avoid it can enter cantonments either by the aid of the darkness of night or the payment of a small bribe to the police; moreover, it is quite impossible to keep the arrivals of each day separate, and those who are freed at the end of their term of detention may have come from direct contact with those who have just commenced it. If there is any risk from intercourse with persons from affected localities, the unfortunates detained in quarantine are exposed to it and must often endure great hardships from want of proper shelter. The examination of railway trains and the forced separation from their friends of any persons found ill with symptoms resembling cholera are open to the most serious abuse. Even if carried out with the greatest care and consideration, any such measures must bear very hardly on the people. Entrusted as they necessarily are in practice to the native police, it is not easy to estimate the amount of oppression to which they may give rise. They could be justified only by showing that they are, beyond all question, beneficial; but no such evidence has been adduced. At present, it appears to be left to the individual judgment of the officer who happens to command a station whether the people are to be subjected to grave inconvenience and loss or not; and, if so, to what extent. The system cannot be limited in its application to the cantonments. In many places the high road passes through the station, and any restrictions imposed affect the traffic of the country. The measures have been tried, and no single case can be cited in which the smallest good has been effected by them. The evil done, on the other hand, is patent, though the full extent of that evil can never be known. In addition to the interference with trade and traffic, and the hardships and annoyance to which the people must be more or less exposed, there are other grave objections to the system. It exposes the troops or others employed on the duty to fatigue and night-work at the time when such exposure is calculated to prove most hurtful. It fills the mind of the community with needless fears, the depressing influences of which ought particularly to be avoided in time of cholera. If the authorities at many of the places where quarantine was enforced in 1875 had

appealed to the history of these places for a series of years, they would have done more to quiet the public mind and inspire confidence than by placing sentries in the hope of keeping out the disease. The system, moreover, diverts the attention of the authorities from the real evils to be dealt with—the sanitary defects of the cantonments; for, instead of endeavouring to discover what the defects are and what are the best means of rectifying them, they are taken up with the attempts to discover and arrest sources of contagion which, even if their existence be proved beyond all manner of doubt, can never be kept out by all the vigilance which can be exercised. Such endeavours, moreover, entirely mislead other countries, which are thus led to seek safety in quarantine, and to involve themselves and those who trade with them in all the miseries which quarantine entails, because, as will no doubt be asserted, the system has been adopted in India and has been found most beneficial, the real fact being that it has been productive only of evil. And what is perhaps most of all to be regretted, it must exercise the worst effect on the native mind, and retard most seriously that progress in sanitary reform which the Government is so anxious to encourage. What can the natives think of our faith in pure air and pure water, and good drainage and other improvements, the importance of which is so often urged on them, when they see that, on a great danger such as a cholera epidemic threatening the public health, we seek security not in these but in the protection of military guards or of the police?

It is not necessary, for the proper consideration of this question, to discuss whether cholera is a contagious disease, or whether it is spread by human intercourse. All this has but little bearing on the matter. The only point to be determined is, can cholera be kept out of a cantonment by means of guards? The views above advocated on the subject of quarantine entirely agree with those of English and other authorities, who, even although they believe in human intercourse as the great means by which cholera is disseminated, are still convinced that quarantine is impracticable. The late Vienna Cholera Conference came to the conclusion that “land quarantines are inexecutable and “useless, and that on this account, and on account of the serious damage they did to “commercial interests, they ought to be abolished.” Mr. Simon speaks of quarantine as “a mere irrational derangement of commerce;” and if quarantine at sea deserves this censure, what is to be said of any attempt at quarantine by land? No doubt much of what was attempted was not quarantine, but merely medical inspection to detect sick persons; but the experience of 1875 proves that even this cannot be carried out in practice, and that it altogether fails to afford any protection.

It is argued that by means of guards persons ill of cholera may be stopped outside cantonments, and that thus the troops and others inside may be protected from the disease. But the experience of 1875 shews that sick persons are not stopped, except in instances so rare that they merely prove the rule. In none of the many cantonments in the Bengal Presidency where restrictions were in force is it stated that persons suffering from cholera or other sickness resembling cholera were stopped except at Lucknow and Nagode. And from Lucknow the information on this point is very vague. It is said that “many infected persons, especially from the Alumbagh side, were stopped by “guards or sentries,” but no record was kept of their number or of the dates. At Nagode no sick were stopped, but it is stated that a traveller who, but for the cordon, would have gone on to cantonments died of cholera outside. Among those detained under observation at other places in this Presidency no mention is made even of any suspicious case having been detected.

In the preceding remarks no reference has been made to the precaution which was generally adopted of placing bazaars or towns and villages in which cholera was reported to exist out of bounds to the troops. This is quite in accordance with the rules prescribed by the Commander-in-Chief in 3rd August 1870. To visit a locality where cholera exists is to expose oneself to the causes producing the disease in that locality; and all such localities should therefore be avoided. This principle, the importance of locality, is enforced by all the facts of the epidemic.

If results are to be taken as evidence of the causes which produce them, then it follows that the causes of cholera, which are always more or less prevalent in the Lower Provinces of Bengal, were singularly dormant over other parts of the country in 1874; that in 1875 these causes were not only intensified in these Lower Provinces, but extended widely over the peninsula, generally diminishing in force as they neared the limits of the area which the epidemic covered; that these causes were not present in certain areas, notably in part of the Central Provinces and in the Upper Punjab; that the presence or absence of these causes was in no way dependent on the facilities or difficulties of communication; that even within the epidemic area these causes were in most parts localised in a small proportion of the villages of each district; that even where the disease was

most severe they left a large number of the villages unaffected by them; that removal from the locality where these causes were at work was attended with great benefit in many instances, while in others the benefit was doubtful, because apparently the movement had been made into another locality where these same causes existed; that these causes cannot be arrested by guards and cordons; and that attendance on the sick does not spread the disease. The whole history of the epidemic in fact points to the danger of locality, to a cause or causes which, though spread over a large area, become in some way localised in certain quarters within that area. What these local cholera and other disease-causes are must be the subject of further investigation, and their removal the aim of all practical sanitary action.

SECTION II.

EUROPEAN ARMY.

Sickness and mortality among European troops.

In spite of the cholera epidemic, the general results among European soldiers in India during 1875 were not unsatisfactory when compared with those of former years, as may be seen from the following statement:—

YEAR.	Average Strength.	RATIO PER 1,000.				TOTAL LOSS.
		Admissions into Hospital.	Daily Sick.	Deaths.	Invaliding.	
1871	56,806	1,449	57	17·53	43·62	61·15
1872	58,870	1,497	56	24·21	43·21	67·42
1873	58,769	1,328	55	15·30	44·58	59·88
1874	59,308	1,357	57	13·58	43·78	57·36
1875	58,409	1,337	56	17·48	40·25	57·73

The extent of sickness, as shown by the ratio of admissions into hospital, was under the average of the period 1871–74; the daily sick-rate and the mortality also were slightly less. Of the total death-rate in 1875—17·48 per 1,000—3·32 was due to cholera. In 1871 this proportion was 1·09; in 1872, 7·25; in 1873, ·80, and in 1874, ·18.

As usual, among causes of admission into hospital malarial fevers occupy by far the most prominent place; they account for 445 per 1,000 out of a total of 1,337. Next to them come venereal diseases with a proportion of 205. The two together make up 650 admissions per 1,000, or about one-half of the whole. The experience of 1875 merely repeats the experience of former years that malarial fevers and venereal diseases together contribute the great proportion of the sickness which affects the British soldier in India. Next to cholera, the chief causes of mortality were hepatitis, apoplexy, enteric fever, phthisis pulmonalis, malarial fevers, and heart diseases. Under none of them was there any very marked difference from the four previous years, except that the death-rate from hepatitis was lower than in any one of them, and that from apoplexy was above the average.

In the Bengal Presidency, taken separately, the results of 1875 as a whole also bear favourable comparison with those of former years. The admission-rate, 1,387 per 1,000, is lower than that of any one of them, excepting 1873, when it stood at 1,349. The daily sick-rate, 57 per 1,000, has been lower in only 4 out of the preceding 17 years; and the mortality, 17·32 per 1,000, is also less than in any of them, except 1873 and 1874, in both of which cholera affected the troops to a very trifling extent. As regards sickness, it is deserving of notice that malarial fevers were less prevalent than usual. The ratio for them, 499, is below the average, and is in marked contrast to 834, which it attained in 1870. Venereal diseases, on the other hand, show a somewhat larger proportion of admissions than in any year since 1866. Cases of venereal disease in 1866 equalled 217 per 1,000, and since then the rate has varied between 166 and 208; in 1875 it was 212. As regards mortality, the main point deserving of notice is that, next to cholera, the largest proportion of deaths was due to apoplexy, which was more fatal than in any year since 1869. Comparing 1875 with former years (beginning with

1860), the results, taken as a whole, are satisfactory, and all the more so because the improvement has been progressive. Under both admissions and deaths there has been a steady diminution.

In the Madras Presidency the admission-rate, 1,109 per 1,000, is lower than it was in any one of the previous 15 years. The daily sick-rate, 56, was also lower than in any one of them, except 1861, in which it stood exactly at the same figure, and 1863, when it was 55. The mortality, 14·85, is higher than in 1874, when it attained the minimum of 12·96; but lower than that of every other year in question. In 1875 fevers maintained the same low proportion of cases compared with the other Presidencies which they did in 1874. Venereal shows a considerable increase over 1874, from 188 to 208 per 1,000. The ratio for 1875 was, in fact, higher than it had been for several years. As regards mortality, enteric fever gives a lower death-rate than in any one of the five years in which this disease has been separately entered; but under other diseases there is no marked variation.

The admission-rate in the Bombay Presidency, 1,404 per 1,000, though higher than in either 1868, 1873, or 1874, is lower than that of any other of the previous 15 years. The daily sick-rate, 53 per 1,000, is also considerably below the average; but the death-rate, 20·92, exceeds that of any year since 1865. This result is mainly due to cholera, which contributed 5·30, or about one-fourth of the total mortality. Under the other heads there is no marked excess in the death-rate compared with the preceding four years with which exact comparison can be made.

In Bombay the daily sick-rate was lowest (53); in Bengal it was highest (57). Under the head of admissions into hospital, Bombay stands highest with a ratio of 1,404; next Bengal with 1,387; and then Madras with only 1,109. In respect to deaths, the Presidencies come in the same order. In Bombay the mortality was 20·92, in Bengal it was 17·32, and in Madras 14·85.

Taking the ten forms of sickness which give the largest ratios, and arranging them in order of prevalence, the results for each Presidency stand thus :—

BENGAL.	MADRAS.	BOMBAY.
1. Malarial fevers - 499	1. Venereal diseases - 208	1. Malarial fevers - 518
2. Venereal diseases - 212	2. Malarial fevers - 196	2. Venereal diseases - 174
3. Wounds and accidents - 94	3. Abscess and ulcer - 96	3. Wounds and accidents - 110
4. Abscess and ulcer - 80	4. Wounds and accidents - 93	4. Abscess and ulcer - 108
5. Respiratory diseases - 79	5. Hepatitis - 71	5. Diarrhœa - 70
6. Diarrhœa - 62	6. Dysentery - 68	6. Respiratory diseases - 69
7. Rheumatism - 59	7. Diarrhœa - 55	7. Rheumatism - 46
8. Hepatitis - 40	8. Respiratory diseases - 44	8. Hepatitis - 40
9. Dysentery - 27	9. Rheumatism - 31	9. Dysentery - 29
10. Eye diseases - 20	10. Eye diseases - 14	10. Eye diseases - 25
Total of the ten - 1,172	876	1,189
Total from all causes - 1,387	1,109	1,404

In all three Presidencies the ten forms of disease which prevailed to the greatest extent are the same; they preserve in the main a similar order, and in all they make up the great bulk of the sickness.

A similar statement may be given to illustrate the mortality per 1,000 from the principal diseases in each Presidency :—

BENGAL.	MADRAS.	BOMBAY.
1. Cholera - 3·66	Hepatitis - 3·17	Cholera - 5·30
2. Apoplexy - 1·91	Heart diseases - 1·99	Apoplexy - 2·16
3. Enteric fever - 1·59	Injuries - 1·99	Hepatitis - 1·77
4. Hepatitis - 1·48	Dysentery - 1·45	Enteric fever - 1·77
5. Phthisis pulmonalis - 1·24	Phthisis pulmonalis - 1·27	Phthisis pulmonalis - 1·28
6. Malarial fevers - 1·18	Apoplexy - ·72	Malarial fevers - 1·28
7. Injuries - 1·07	Suicide - ·72	Injuries - 1·08
8. Respiratory diseases - ·94	Enteric fever - ·63	Heart diseases - ·88
9. Heart diseases - ·78	Cholera - ·36	Dysentery - ·88
10. Dysentery - ·65	Malarial fevers - ·36	Respiratory diseases - ·79
Total of the ten - 14·50	12·66	17·19
Total from all causes - 17·32	14·85	20·92

The most noteworthy features in this statement are the high death-rates from cholera, apoplexy, enteric and malarial fevers in Bengal and Bombay as compared with Madras, and the high ratio due to hepatitis and heart diseases in Madras as compared with the other Presidencies.

Sickness and mortality in groups.

Having indicated in a general way the main points in the statistics of sickness and mortality in the European Army of India during 1875, and also in that of each Presidency taken separately, and having compared the results of the past year with those of former periods, the distribution of the sickness and death-rate in the provinces or groups of stations into which the Army has been divided for statistical purposes next claims attention.

Bengal proper.

In Bengal proper the results were very favourable. The admissions equalled only 1,047, the daily sick 45, and the mortality 11·63 per 1,000. Of cholera there was not a single case. These ratios are all the more satisfactory when compared with the experience of former years. During the ten years 1860–69 the admissions annually averaged 1,821 per 1,000, the daily sick 69, and the deaths 29·57. During the five years 1870–74 the admissions varied from 1,827 during the year of the dengue epidemic (1872) to 1,134 in 1874; the daily sick from 64 to 50; and the death-rate from 19·93 to 14·21. In no former year did the troops entirely escape cholera. The statistics of 1875 in Bengal proper are thus much more favourable than they have ever been previously. Of the three cantonments which form this first group, Fort William takes the first place. At Barrackpore both sickness and mortality were much in excess of what they were at either Fort William or Dum Dum. This result was due in the main to the continued unhealthiness of the two batteries of the 11th Brigade, R. A., which suffered so much in the previous year—the first of their Indian service.

Gangetic Provinces and Oude.

In the second group, which includes the Gangetic Provinces and Oude, the results were not so favourable as in Bengal proper, for here the admission-rate was 1,234, the sick-rate 65, and the death-rate 18·10, of which cholera contributed 5·65. In many of the ten stations forming this group sickness prevailed. At Benares the daily sick-rate reached 90 per 1,000. Here also was the heaviest death-rate, 27·40; at Lucknow it was 22·20, but in none of the others did it amount to 20 per 1,000. Among individual corps the greatest mortality was in the B. Battery, A. Brigade, R. H. A., at Lucknow, in which it equalled 70·42 per 1,000. But while the results during 1875 cannot be regarded as satisfactory, they show a marked improvement on those of other years. In the ten years 1860–69 the annual admission-rate equalled 1,614, the daily sick-rate 69, and the death-rate 28·59. During the five years 1870–74 the admissions were never under 1,276 per annum, the daily sick-rate varied between 58 and 71, and the death-rate between 18·34 and 25·81.

Meerut and Rohilkund.

The same cannot be said of Meerut and Rohilkund, where, owing mainly to the prevalence of fevers and cholera, there was much sickness and a high death-rate. The admissions in this group equalled 1,323, the daily sick-rate 54, and the mortality 21·62, of which 5·92 was due to cholera. It is to be observed, however, that during the ten-year period the annual ratios averaged for admissions 1,576, for daily sick 72, and for deaths 26·61. Between 1870 and 1874 the admissions varied between 1,730 and 1,229, the daily sick between 65 and 49, and the mortality between 33·98 and 14·75. Some of the stations in this group suffered much from sickness. At Meerut the cases equalled 1,855, and at Delhi 1,676 per 1,000. At this last station the death-rate was 31·12, and at Roorkee (chiefly on account of cholera, which alone equalled 10·80) it was 38·88. In individual corps the highest admission-rates were 2,277 in the 15th Hussars at Meerut, and 2,065 in the A. Battery, C. Brigade, Royal Horse Artillery at the same station. The unhealthiness of Meerut of late years was remarked on in last annual Report. Extensive drainage works are in progress for the improvement of the station. It is too early yet to form any estimate of the effect to be derived from them, but it may be noted that, high as the admission-rate at Meerut was in 1875 (1,855 per 1,000), there is considerable improvement on 1874, in which it equalled 2,439.

Agra and Central India.

The Agra and Central India group embraces seven cantonments. In point of sickness Jhansi suffered most, the admissions equalling 2,060 per 1,000; but the daily sick-rate was highest at Morar, where it averaged 69. As regards mortality, there are very marked fluctuations. At Saugor it was only 5·22 per 1,000, at Morar it was 27·28, and in the Gwalior Fortress 31·79. Of all the corps, the F. Battery of the 11th Brigade, Royal Artillery, shows the highest proportion of admissions, and the 11th Regiment at

Jubbulpore the lowest. The death-rate varied from 6·21 in the A. Battery, 19th Brigade, at Agra, to 29·38 in the 54th Regiment at Morar. Taking the group of stations as a whole, the cases of illness were in the proportion of 1,241 per 1,000, the sick-rate was 58, and the death-rate 16·71, of which 5·57 was caused by cholera. The figures for the ten-year period are, for admissions 2,169, daily sick 74, and deaths 38·48. Since 1870 only one year, 1873, shows a lower admission-rate. In three, the sick and death-rates were under those of 1875.

In the Upper Punjab fevers were very prevalent; and three of the stations suffered from cholera to some extent. The death-rate for the province, 18·34, is, however, affected by this disease only to the extent of 2·27. The admissions equalled 1,729 per 1,000, and the daily sick 58. In the ten years 1860–69 these rates were 1,740, 56, and 25·24. In 1870 the admissions equalled 2,323, the daily sick 69, and the deaths 24·48. In 1872 the death-rate was 32·43. With these exceptions, however, the results of 1875 are more unfavourable than those of any one of the previous five years. Several stations show great prevalence of sickness. In all but Ferozepore, the admission-rate exceeded 1,000; in four it exceeded 2,000, and at Peshawar it reached the very high figure of 3,312. In seven of them the death-rate was more than 20 per 1,000. At Attock it was 23·26, and at Umritsur and Govindgurh it attained the maximum of 39·22. Punjab.

The hill stations are eleven in number, varying greatly in elevation and geographical position. Excepting at Kangra, which is only 2,419 feet above the level of the sea, and cannot therefore properly be ranked as a hill station, the admission-rate was low. At Dharmasala there was a sharp outbreak of cholera, but here, and also at Jutogh, the comparatively high death-rate represents a few deaths in a very small body of men. Taken generally, the results at hill stations in 1875 were as usual favourable; the admissions equalled 996, the daily sick 42, and the deaths 8·31. For the ten-year period 1860–69 the ratios are 1,069, 49, and 14·78. Between 1870 and 1874 the admissions fluctuated between 1,114 and 846, the sick-rate between 51 and 40, and the death-rate between 18·06 and 9·04 per 1,000. Hill stations.

There was an increase in the number of European troops and their families quartered in the hills of the Bengal Presidency during the hot season and rains of 1875, and there has been a further increase during the present season. On the 1st June 1876 the proportion of men, women, and children in the hills to the total strength of each were, of men 24·75 per cent., of women 23·24, and of children 26·13.

The statistics of mortality in the convalescent depôts are somewhat disturbed by the severe outbreak of cholera at Kasauli. The death-rate at this station was 31·58. At the Darjeeling depôt, however, where there was no cholera, the occurrence of seven deaths in a comparatively small body of men yields even a higher ratio, 36·65. At the depôts generally the results of 1875 compare favourably with those of former years. The admissions into hospital, 1,167, are under those of the years 1860–69, in which they averaged 1,271. The rate is also lower than that of 1870. The daily sick-rate 89, although high, as may be expected because all the men sent to these depôts are more or less out of health, is the same as it was in 1874, and lower than that of any one of the previous four years, for which the statistics of convalescent depôts have been given separately. Convalescent depôts.

Among the groups of the Madras and Bombay Presidencies, British Burma shows, in every respect, the most favourable results. In this province the admissions into hospital equalled only 967 per 1,000, the daily sick 43, and the deaths 10·50. At Thyetmyo the admission-rate was only 786, the sick-rate 29, and the death-rate 7·36 per 1,000. In the Deccan and Nagpore group the admissions attained a maximum of 1,413; but the daily sick-rate was highest in Southern India, where it amounted to 58 per 1,000. But it was in the group which comprises Rajpootana, Malwa, and Sind that the mortality was heaviest. Here the ratio equalled 22·91, of which 6·62 was due to cholera. The excessive sickness at Bombay, represented by 2,442 cases per 1,000, is worthy of notice. Omitting all places occupied by very small garrisons, the next highest admission-rate was at Poona and Kirkee, where it was 1,781. In 14 other stations it exceeded 1,000. Discrepancies equally striking appear in the death-rates. At Cannanore it was only 4·85, and at Ahmednuggur 4·88. At Ahmedabad and Baroda, on the other hand, it was 44·26, and at Neemuch it attained a maximum of 57·60. These high ratios were due in great measure to cholera. Madras and Bombay Presidencies.

Small-pox.

In the whole European Army of India there were only 12 cases of small-pox, and of these only 2 were fatal. Eight of the cases occurred in Bengal, 3 in Madras, and 1 in Bombay. Of the whole number, 9 were admitted into hospital during the first four months of the year, 2 in July, and 1 in November. All the other months were blank. The entire absence of the disease in the autumn months repeats the experience of former years.

Malarial fever.

As a whole, malarial fevers were less prevalent than in any one of the previous four years. In 1872 the ratio attained a maximum of 603 per 1,000, and in 1874 the minimum of 465. For 1875 it stands at 445. The mortality ascribed to these fevers equalled 1.04, compared with 1.74 in 1871, and .86 in 1874; the ratios for 1872 and 1873 occupy an intermediate place; but the results varied much in the different Presidencies and groups. In Bengal the admission-rate from this cause equalled 499, in Madras it was only 196, and in Bombay 518; the death-rates being respectively 1.18, .36, and 1.18. In the Bengal Presidency these fevers were most prevalent in the Punjab, where the admissions from this cause alone equalled 854 per 1,000; in the Gangetic Provinces they were only 223. In the Rajpootana and Sind group again they were 475, and in British Burma only 117, the smallest proportion of all. In the Bengal Presidency the ratio fluctuates between a minimum of 85 at Shajahanpur to a maximum of 2,622 at Peshawur. In the Madras Presidency fevers were most prevalent at Kamptee, where the cases equalled 532 per 1,000, and least prevalent at Rangoon, where they equalled only 98. In the Bombay Presidency, Bombay itself gives a maximum of 1,212, and Ahmednuggur a minimum of 180. In the Bengal Presidency, fevers were most prevalent in November, in Madras in June, and in Bombay in November.

Enteric fever.

In the Army of India 166 cases of enteric fever were treated, of which 84 proved fatal. The admission-rate from this disease equalled 2.8 per 1,000, and the death-rate 1.44. Between 1871 and 1874 the mortality under this head fluctuated between 1.87 in 1872 and 1.34 in 1873. The cases occurred at 52 different stations; in Bengal the disease was most prevalent in the months of May and June; in Madras in April, June, July, and August; and in Bombay in April. It was not only less prevalent in Madras than in the other Presidencies, but the proportion of cases proving fatal was also smaller. In Bengal 51 per cent. of the cases were fatal; in Bombay the ratio was 64; whereas in Madras it was only 30.

In last annual Report the facts elicited by a special inquiry which had been instituted in regard to enteric fever were given for 1874 so far as concerned Bengal. The experience of 1875 is to much the same effect. Of 108 cases which have been analysed, 80 were in men under 25 years of age, and 96 were in men during their first four years of Indian service; of the latter, 37 cases were in the first year of Indian service, 67 within the first two years, and 80 within the first three years.

No reports on enteric fever have yet been received from either Madras or Bombay, but the evidence derived from Bengal fully supports the opinions which have been previously expressed regarding this disease. In the whole history of enteric fever in India there is nothing to lead to the belief that it is a disease which is new to this country, that it has been imported from England, or that it has been propagated by the sick. The only explanation of the facts is to be found in local insanitary conditions, and among these malaria seems to have an important place. As the Army Sanitary Commission remark, "the practical result of the entire series of facts is that "there should be strict local inquiry into the whole subject of enteric fever, and that, "in dealing with local causes, allowance must be made for the special exaggerating "effect of climate." The attention of the authorities in all three Presidencies has been directed by the Government of India to the remarks of the Commission, and also to the importance of a careful inquiry into all the facts connected with the appearance of the disease.

The special inquiry aimed at discovering, if possible, the local insanitary conditions by which enteric fever seemed to be caused. In many of the stations where cases occurred everything was said to be satisfactory, but in others defects have been noted which call for removal. The sanitary condition of stations will be referred to in a subsequent section, but in connexion with this special inquiry into enteric fever the following extracts from medical officers' reports may here be given. Surgeon-Major Hollingsworth, 62nd Regiment, Dum Dum, remarks:—

"The system (of burying the ordure in trenches) is bad for a place like Dum Dum during the rains, when the ground is water-logged; great difficulty in keeping "the ordure from spreading over the surface of the ground. Sudder Bazaar is

" very close to married quarters. It is tolerably clean on the surface, and that is all that can be said in its favour. Population over 5,000; about a third of their number have private latrines behind their houses, and cleaned at uncertain intervals. The remainder are supposed to go beyond the cantonment boundary, which is close to the bazaar, for the purposes of nature, but in reality nuisances are found everywhere in the vicinity. With the exception of the main street of the bazaar, the drains are in a very unsatisfactory state, merely dirty ditches."

The medical officers of the B.-A. Royal Horse Artillery and 40th Regiment, Lucknow, note no sanitary defects. Surgeon-Major Shipton, 13th Hussars, also at Lucknow, remarks:—

" The floors of the barracks in which the cases in that regiment occurred are very bad, they are irregular and full of holes, made of square flat bricks, about $2\frac{1}{2}$ inches thick, they are very soft and badly made, the corners break, and a depression soon occurs which enlarges. Consequently, in the rains it is impossible to keep the floors properly dry, and the holes and irregularities collect dirt and moisture. This is especially the condition in the hospital. Drainage is bad, could hardly be worse."

Surgeon-Major Barnwell, 1-18th Royal Irish, at Moradabad, describes the quarters in which the one case in that regiment occurred as "totally unfit." "It is an old building, and, owing to faulty construction, there are in some places six rows of cots, and never less than four rows. The floors are bad, and ventilation defective. The wells also are objectionably near the barracks."

Surgeon-Major Wilson, A.-C. Royal Horse Artillery, Meerut, observes that "the sanitary conditions of the barracks and their surroundings were, and are still, in a very unsatisfactory state." But Deputy Surgeon-General Tuson adds, with reference to this remark, that these conditions are dependent on the defective drainage, which is being remedied.

When the case in the 72nd Highlanders at Umritsur was taken into hospital, there were, writes Surgeon R. Smith, "a large number of admissions from malarial fever, and the subsoil water, which had risen unusually high, was again subsiding. The ground round the hospital and barracks was soaked during the rains, owing to inequalities in the ground and want of surface drainage. This defect has since been remedied. Offensive smells arise occasionally from the latrine-trenches. Neighbouring bazaar in an insanitary condition."

The sanitary condition of the barracks occupied by the 9th Lancers at Sialkot is described as good, but "in the bath-room of a married sergeant who was attacked the floor was found saturated with urine." Surface drainage generally defective.

The medical officer of the 4-13th Royal Artillery at Peshawur states that the surface drainage is "not good;" and a similar remark is made by the Surgeon of the 70th Regiment at this station. There was a very offensive smell in the bath-room of one of the men of this regiment who was attacked. This "arose from an iron pipe carrying off the dirty water from the bath-room above, which opened into the same small drain that carried off the water from his bath-room. The water from these bath-rooms, as well as from all the bath-rooms in the new barracks, is disposed of outside the barrack in close proximity by soakage."

The difficulty of distinguishing cases of enteric from ordinary malarial fevers in the early stage is generally admitted, and there is reason to believe that many escape detection. In not a few which prove fatal it is only the discovery of the characteristic lesion after death which puts the matter beyond all doubt. The medical officer of the E. Battery, 11th Brigade, Royal Artillery, at Allahabad, for example, remarks that "many of the simple continued fever cases were a very long time under treatment, and had more or less diarrhoea associated with them." Surgeon Jameson, C. Battery, of the same Brigade, expresses an opinion that "it is next to impossible to diagnose typhoid fever definitively during the first few days of the disease in this country;" and this opinion is shared by many medical officers. It is to this difficulty of diagnosis, and to the consequent necessity for changing the name of the disease during its course, that the apparent engrafting of enteric fever on ordinary cases of fever while in hospital is due.

Apoplexy, with a death-rate of 1·73, has been more fatal than in any year except Apoplexy. 1872; 240 cases were treated, of which 101 proved fatal. The admission-rate was highest in the Bombay Presidency, 6·3; next highest in Bengal, 4·1; and lowest in Madras, 2·1. The mortality observes the same order, having been 2·16 per 1,000 in Bombay, 1·91 in Bengal, and only ·72 in Madras. The disease was widely distributed,

and as usual occurred chiefly in the hot months. Of 153 cases in Bengal, 101 were admitted in June and July.

Bowel complaints. Dysentery and diarrhoea taken together account for 98 admissions per 1,000,—a proportion somewhat in excess of those of the two previous years, but under that of either 1871 or 1872. The death-rate, .98, is lower than that of any of the previous four years. In Bengal the admission-rate was 90, in Bombay 99, and in Madras it was 123. In Bengal the death-rate was .73, in Bombay 1.27, and in Madras 1.54. Omitting convalescent depôts, the admission-rate from dysentery taken alone exceeded 50 per 1,000 in six stations of the Bengal Presidency, the highest ratio being less than 90 per 1,000. In Bombay the admission-rate was 129, at Rangoon 93, and at Tonghoo 205 per 1,000.

Delirium tremens. Two hundred and one soldiers were admitted into hospital suffering from delirium tremens, and of these 8 died. The death-rate, .14 per 1,000, is exactly the same as it was in 1874, slightly over that of 1873, and less than that of either 1871 or 1872. In Bengal the ratios were, for admissions 2.4, and for deaths .03; in Madras the figures are 4.3 and .18; and in Bombay 6.2 and .49. In regard to delirium tremens, the results in Bombay are thus more unfavourable than in Bengal or Madras.

Hepatitis. In all three Presidencies hepatitis contributes a considerable portion of the total death-rate. In Bengal it stands fourth in the list of causes of mortality, contributing 1.48; in Bombay it is third, contributing 1.77; and in Madras it is first, with a ratio of 3.17. Since 1871 it has invariably headed the list in this Presidency. For the Army of India the total death-rate due to hepatitis, 1.85, is less than that of any of the preceding four years, in which it ranged between 2.16 and 2.73. The mortality from this cause in Bengal is less than it has ever been before. In Madras, high as it is, it is lower than that of any one of the previous four years; and in Bombay it is also lower than that of any one of these years except 1874.

Venereal diseases. The comparative prevalence of venereal diseases during the last five years is shown in the following statement:—

YEAR.	ADMISSIONS PER 1,000.			
	Bengal.	Madras.	Bombay.	India.
1871 - - -	208	180	174	196
1872 - - -	190	164	154	179
1873 - - -	167	152	181	166
1874 - - -	200	188	170	192
1875 - - -	212	208	174	205

In Bengal and Madras, as well as in the Army of India as a whole, venereal disease has been more prevalent in 1875 than in any one of the previous four years. In Bombay the ratio for 1875 is the same as it was in 1871, somewhat greater than it was in 1872 and 1874, and a little under what it was in 1873.

As to the proportion in which each station contributed to these results,—in the Bengal Presidency this varies from 32 per 1,000 during seven months at Landour, where there is no lock hospital, to 503 at Fyzabad. At only 9 station was the admission-rate under 100 per 1,000, and most of these were occupied for only a part of the year. At 19 stations it exceeded 200 per 1,000, and in many of these the excess was great. Of the Madras and Bombay stations there are six in which the ratio was under 100. Omitting small bodies of men among whom ratios for a single year have but small value, the greatest prevalence was at Kamptee, where the admission-rate equalled 261.

Taking the results in connexion with the working of the lock hospital system, the main facts may thus be briefly summarised. Of the 55 stations in the Bengal Presidency which were occupied by British troops in 1875, 12 were not under the rules for the prevention of venereal diseases. In all of these the European garrison is small, and the ratios are therefore subject to great fluctuations from year to year; 8 of the 12 show a decrease in venereal disease as compared with 1874, while in the other 4 there was an increase. At 17 of the 43 provided with lock hospitals, venereal disease

was in smaller proportion than it was in 1874; at one it was exactly the same in both years; at the other 25 it had increased. The reports of the Madras lock hospitals for 1875 have not yet been received, excepting those of the stations in British Burma here, of the three occupied by British troops, all of which have lock hospitals, Rangoon shows a large increase, and at Thyetmyo there is also an increase. At Tonghoo, on the other hand, there was a decided diminution of disease. Six of the other Madras stations under the rules show an increase. Of ten stations in the Bombay Presidency where lock hospitals were in operation, six give more favourable results in 1875 than in 1874; in the other four they were more unfavourable.

So far no distinction has been made between the various forms of venereal disease, but this information is important not only in itself, but also as affording a valuable test of the lock hospital system. The results in 1874 and 1875, as regards primary syphilis and gonorrhœa, stand thus:—

		Rates per 1,000 of Admissions into Hospital.			
		1874.		1875.	
		Primary Syphilis.	Gonorrhœa.	Primary Syphilis.	Gonorrhœa.
Army of Bengal	- -	66·3	99·0	71·3	94·1
„ Madras	- -	79·3	66·4	69·8	78·8
„ Bombay	- -	63·0	70·4	48·7	76·4

In Bengal the result was decidedly unsatisfactory; in 1873 the ratio for primary syphilis was only 49. While in Madras there was a considerable diminution of primary syphilis, there was an equally decided increase in gonorrhœa. For Bombay the return was more favourable than for either of the other Presidencies.

This is hardly the place to enter into a detailed discussion of the lock hospital question, or to explain the peculiar difficulties which attend its operation in India, and the measures which have been taken to overcome them. It is sufficient to point out that, in spite of a very general introduction of the rules for the prevention of venereal disease among European troops, the results hitherto have been a failure. In some cantonments, no doubt, little attempt has been made to attain success, but in others where the authorities have been most energetic and careful little result has attended their efforts. The statistics of different stations are no doubt more unfavourable than they would be if the cases due to these stations were alone considered; but to attempt any more minute record than that given in the tables would entail much extra labour with little corresponding benefit. In many instances it is almost impossible to say where or when disease was contracted. Moreover, as regards the inefficiency caused by venereal disease, it is immaterial whether it was contracted on the march or in cantonments. The practical question to be determined is, what effect have the lock hospitals in numerous stations over the country had in diminishing venereal disease among British soldiers in India, and the answer that must be given to this question is not favourable. The statistics which have been cited as to the comparative increase or decrease of venereal disease at individual stations in the last two years are important only in so far as they tend to show any progress. The real point at issue is not whether the results in 1875 are or are not more satisfactory than in 1874, but how far does venereal disease still prevail in each garrison; and it is only necessary to glance at the table to see how little has yet been accomplished. More detailed accounts would show that, in respect to the forms of disease prevailing, the results at many of them were most unsatisfactory. At Nowshera, for example, there were 127 admissions from primary syphilis in 1875, at Fyzabad 202, and at Lucknow 441. Nowhere has any permanent and decided impression been made on this class of diseases. In regard to many of them, years may be found before lock hospitals were established which show a lower proportion of venereal cases than other years in which the lock hospitals have been in operation. The stations with lock hospitals have established no decided superiority over those without them. It is argued that the disease is now of milder type than it used to be, but no facts have been adduced in support of this statement, nor does it appear how such a result could have been attained, unless it be admitted that the disease is contracted from the registered women,

for the others are under no surveillance, and cannot have been affected by the system. It is very disappointing to be obliged to acknowledge that the lock hospitals have failed. They were introduced at the recommendation of the Sanitary Department, and year by year their working has been carefully watched, and suggestions have been made by that department in the hopes that success would yet be attained, but so far these hopes have not been realized, and it is very evident either that the women who are the real source of evil still escape detection, or—and this is a danger which does not appear to be sufficiently appreciated—that registered women, though to all appearance healthy, are yet capable of propagating disease.

Invaliding.

The total loss by invaliding in the Army throughout India for 1875 equalled 40·25 per 1,000, and a comparison with the ratios of the previous four years shows that, although there has been but little fluctuation during the period, this loss is less than in any one of them. How much of it was due to invaliding for change of climate, and how much for discharge, is shown in the following statement, in which the ratios for the years 1871-74 are also entered:—

Year.	Total number invalided.	Ratio per 1,000.	Ratio per 1,000.	
			Number sent home for change.	Number sent home for discharge.
1871	2,381	43·62	31·00	12·62
1872	2,438	43·21	30·73	12·48
1873	2,434	44·58	33·68	10·90
1874	2,411	43·78	32·59	11·19
1875	2,371	40·25	31·19	9·07

Under both heads the results of 1875 compare favourably with those of the preceding years.

For Bengal taken separately, not only are the returns of 1875 favourable when compared with those of the years 1871-4, but the total invaliding is in smaller proportion than in any year since 1864, when it equalled 36·75 per 1,000; and the loss under the head of men sent home for discharge is less than in any one of the previous 15 years, with the single exception of 1870, in which it was only 8·37 per 1,000.

Although the results in Madras are not so favourable, as compared either with the total ratio or with the ratios of former years, it is to be remarked that the excess has been due to men having been sent home for change of climate. During the 15 years 1860-74 the annual loss by invaliding in Madras varied between 28 and 77 per 1,000. In 9 of these 15 years it exceeded 50 per 1,000.

Of the total loss of 40·57 per 1,000 in Bombay, only 5·27 was due to men sent home for discharge. In the 15 years 1860-74 the ratio of total invaliding in Bombay varied between 24 and 45.

The main causes to which invaliding is ascribed rank in the following order:—

1. General debility - 8·28 per 1,000
2. Hepatitis - 5·98 "
3. Diseases of heart and large vessels - 4·80 "
4. Phthisis pulmonalis - 2·77 "
5. Dysentery - 2·22 "
6. Intermittent and remittent fevers - 2·17 "
7. Rheumatism - 2·14 "

or a total of 28·36, out of the grand total of 40·25. These and other causes affected the results in each Presidency in very different degrees. From fevers, for example, the loss was in Bombay 4·58, in Bengal 1·87, and in Madras only ·99 per 1,000. From hepatitis, on the other hand, the loss in Madras was 8·06, in Bengal 5·76, and in Bombay 4·49. Dysentery had even more relative prominence as a cause of invaliding in Madras.

No returns have yet been received showing the ultimate disposal of the men invalided.

The following statement shows the ratio of mortality at different periods of life : —

Relation of mortality to age and length of service.

CAUSES OF DEATH.	RATIO PER 1,000 OF STRENGTH.					
	Under 20.	20 to 24.	25 to 29.	30 to 34.	35 to 39.	40 and upwards.
Cholera - - - - -	2·37	3·10	3·26	2·62	2·94	9·28
Remittent and continued fevers - - - - -	·79	1·10	1·20	·65	·71	2·06
Enteric fever - - - - -	2·37	2·35	1·49	·47	—	1·03
Apoplexy - - - - -	·79	·85	1·09	2·24	3·18	4·13
Delirium tremens - - - - -	—	—	·06	·09	·59	—
Dysentery and diarrhoea - - - - -	—	·40	1·09	1·03	1·77	4·13
Hepatitis - - - - -	—	1·05	1·49	1·68	3·18	7·74
Phthisis pulmonalis - - - - -	—	1·00	·57	·75	2·83	3·61
Heart disease - - - - -	—	·05	·63	1·59	3·06	1·55
All other causes - - - - -	1·58	2·85	4·00	4·96	7·65	17·02
All causes - - - - -	7·91	12·74	14·87	16·09	25·91	50·54
All causes, excluding cholera	5·54	9·64	11·61	13·47	22·96	41·26

The sickness and mortality in newly-arrived regiments, as compared with that in the Army generally, and also the death-rate due to a few of the principal climatic diseases in each class, are shown in the following statement, which has been prepared from the annual returns :—

Per 1,000.

	Admissions.	Daily sick.	Deaths.	CAUSES OF DEATH.			
				Enteric Fever.	Apo-plexy.	Dysentery.	Hepatitis.
Army generally - - - - -	1,307	55	17·25	1·43	1·68	0·87	1·78
Newly-arrived Regiments - - - - -	1,310	50	24·39	4·71	3·21	1·28	0·86

As in former years, the mortality among the newly arrived was considerably in excess of the general ratio, but the same remark does not hold good of the sickness. In forming any conclusion on this point, it is to be remembered that new regiments are quartered as far as possible at stations selected for their healthiness, and also that in the number for a single year fluctuations are apt to occur.

The influence of age and Indian service on the British soldier has been very ably discussed by Dr. Bryden in papers which appeared as appendices to the Sanitary Reports for 1871 and 1872, and which have since been collected in one of the volumes of his work on the vital statistics of the Bengal Presidency. The question is of so much practical importance, and has so direct a bearing on the future of the Army in India, that it will not be out of place to draw attention anew to some of the more important facts which have been given by him, and to add the results of further experience so far as they are yet available. As regards sickness, there are no statistics to show the relative proportion of admissions at different ages; but they would not be of much value as an index of the influence of climatic causes, as they would be largely affected by venereal disease.

The figures given in the Army Medical Reports fully bear out the views advanced by Dr. Bryden as to the marked influence of age, as may be seen from the following statement :—

Bodies of Men compared.	RATIO OF DEATHS PER 1,000.					
	Under 20.	20-24.	25-29.	30-34.	35-39.	40 and upwards.
Troops in the United Kingdom, 1863-72 - -	2·87	5·42	6·79	12·53	17·76	21·16
Civil male population, England and Wales -	7·41	8·42	9·21	10·23	11·63	13·55
Troops serving in India, 1863-72 - - - -	9·34	17·14	23·61	32·64	44·31	65·93

This statement brings out two facts in a striking manner: *first*, the high death-rate among troops in India as compared with those in England; and *secondly*, how much more rapidly the proportion here increases with age. For example, in the United Kingdom the mortality between the second and third quinquennial periods of life rises little more than 1 per 1,000, in India it rises nearly 7 per 1,000.

There can be no question then of the great general truth that as age advances the excess mortality among British soldiers in India over and above the English rate becomes more and more decided. There is, in other words, a marked deterioration among them as a body, and a much greater liability to death. It is not possible to fix any precise age at which the soldier is no longer fitted for Indian service; much depends on individual constitution and other concomitant circumstances; but it seems very clear that at or about 30 years of age, as a rule, service in India is attended with greatly enhanced risk.

The statistics of the eight years 1865-72 show that the number of young men invalided is greater than it ought to be, that it rapidly increases with age, and that the proportion is greatest in men over 30 years old:—

INVALIDING.	RATIO PER 1,000.		
	Under 24 years.	25-29.	30 and upwards.
1865-70 - - -	26·55	39·74	78·34
1871 - - -	25·97	40·42	68·14
1872 - - -	21·79	38·36	60·87

But how far are these results to be attributed to age, and how far to residence in India, for although the very young men are new to the country, many of the older men are new also? There are no general statistics of sickness, mortality, and invaliding according to Indian residence, but there are many striking examples to show that regiments during the first year of Indian service suffer very much more in all respects than they do afterwards.

In his first paper Dr. Bryden gives the experience of regiments during their first year of Indian service as compared with that of men of longer residence cantoned at the same station. The results are very striking, as may be seen from the following figures:—

Strength	-	-	-	{ New troops	-	3,777
				{ Old	-	3,878
Admission-rate per 1,000	-	-	-	{ New troops	-	2,026
				{ Old	-	1,219
Daily sick-rate per 1,000	-	-	-	{ New troops	-	84
				{ Old	-	52
Death-rate per 1,000	-	-	-	{ New troops	-	92
				{ Old	-	21

The difference is no doubt exaggerated owing to the fact that the period includes two unhealthy years, 1867 and 1869, in both of which cholera was epidemic; but cholera epidemics have an important bearing on the question, and there can be little doubt that new troops are much more liable to be attacked by cholera than those which have been acclimatized. The same truth is, however, illustrated in a remarkable manner by the case of the 11th Brigade, Royal Artillery, in 1874, which was a very healthy year and singularly free from cholera. This case is all the more instructive because the batteries were quartered at six separate stations. In all of these they differed from the other troops quartered beside them mainly in this one respect, that they were new to the country, and the result in each of the six stations was that the battery suffered excessively, and far more than the other troops. The results may no doubt have been exaggerated by the fact that the 11th Brigade arrived somewhat late in the season, that it was composed largely of young men, and that the duties of learning their drill were trying. But these causes, although due weight may be given them, seem insufficient of themselves to account for the striking contrasts which are presented. On the other hand, it is to be remembered that under the present system regiments on their first arrival are sent as far as possible to selected stations. If it should be necessary to send them on first arrival to stations without selection, much greater sickness and mortality might be anticipated, and if new arrivals had to take the field, the experience of 1858 would no doubt to a large extent be repeated.

When age and length of Indian service are taken together, it appears that the death-rate at the different periods of life maintains much the same relative proportions as in the standard, but that at all periods it is much increased during the first year, that it still remains high in the second, and that it sinks to a minimum in the third. As regards invaliding according to age and length of service, the main point is the general fact that the loss on this account, even during the first years of Indian service, is very heavy. How much men new to the country contribute to the invaliding may be gathered from the facts mentioned by Dr. Bryden: that of 1,800 invalids from new regiments 100 only had served more than three years in India; and, again, that of a total of 10,002 men invalided between 1865 and 1870, 3,122 had spent only from one to three years in India.

The importance of taking special care of regiments during the first years of their Indian service, which has long been recognised, is still further illustrated by these facts. The selection of the best stations for them, the removal of undeveloped youths to the hills for the hot weather and rains, and the most careful management of all those who remain in the plains, are all measures the value of which is fully understood, and renewed attention has been drawn to them by the case of the 11th Brigade, Royal Artillery.

The number of cases of drunkenness reported among British soldiers in Bengal during 1875 was 8,926, compared with 10,988 in the previous year. In 1873 the number was 8,976. The number of total abstainers was returned as 3,097. In Madras the cases amounted to 4,683; in 1874 the number was 5,346. The total number of abstainers in this Presidency was given as 612. In Bombay there was a considerable increase in the number of cases of drunkenness,—4,259, compared with 3,568 in 1874. The total abstainers were said to amount to 794. The returns from which these data are taken cannot be much depended on. The contrasts between different corps are so marked as to lead to the conclusion either that the statements have not been carefully compiled, or that they have not been prepared on the same principle in all.

As they now stand, it is very difficult to form any correct estimate of the extent to which alcohol is responsible for sickness and mortality among British soldiers in India, and the medical returns do not supply this deficiency.

The statistics of the women of European regiments throughout India were not so favourable as in some of the previous four years. In consequence of cholera, the death-rate was higher than in any one of them, except 1872, when also cholera was very prevalent.

Of the 164 deaths which occurred among the women throughout India, 34 were due to cholera, 21 to child-birth, 20 to malarial fevers, 14 to dysentery, 14 to phthisis, 10 to diarrhoea, 7 to enteric fever, and the same number to respiratory diseases.

Among children the death-rate was considerably higher than in either 1873 or 1874, a result due in some measure to cholera.

Of 862 children who died, 179 are returned as having died from diarrhoea, 137 from convulsions, 87 from anæmia, 86 from dentition, and 63 from cholera.

The ratio of mortality among the children at different ages, and also the ages at which the different diseases proved fatal, exhibit the same general truths as have been indicated in previous years, notably the enormous death-rate among very young children, and at the same time their comparative exemption from cholera.

Of a total of 1,990 officers of the British Army, 34 died in 1875, or a ratio of 17·09 per 1,000; of 1,799 officers of the Indian Army, 25 died, or a ratio of 13·90 per 1,000.

SECTION III.

NATIVE ARMY (BENGAL).

In the Regular Native Army the deaths, including those which occurred among men on leave, as well as those in the regimental hospitals, equalled 15·70 per 1,000. In 1874 the ratio was 13·50, but this was the minimum; in 1873 it equalled 17·01, and in 1872, 20·08. The total mortality of the Regular Native Army in 1875 was in fact much below the average. In the Central India Irregular Regiments the total deaths were in much smaller proportion than in the Regular Army, being only 9·68 per 1,000; but in the Punjab Frontier Field Force the reverse was the case, for here the death-rate amounted to 21·85 per 1,000. These figures are deserving of notice, but do not call for further comment, as, beyond the fact of death, nothing further is known. The

causes to which it was due are unrecorded, for in many instances the men died at their homes far removed from professional advice.

As a whole, the results of 1875 may be considered as favourable. In the Regular Native Army the admission-rate (1,233) was under that of 1874 (1,266) and also under the average of the preceding ten years (1,391); the daily sick-rate was 40, compared with 41 in 1874, and 43 the average of the ten years 1864-73; and the mortality 13·55, although in excess of that of 1874 (when it was only 10·94), was less than the average of the ten-year period (14·25). In the Central India Regiments the ratios for the two years are much the same, and both compare favourably with the ten-year standard. In the Punjab Frontier Field Force, however, the results are not favourable. Here the admission-rate, although high (1,662), was less than it was in 1874, when it equalled 1,712; but the death-rate (19·35) was much in excess of the ratio of the previous year (12·28), and was in fact above that of any one of the previous eleven years, excepting 1869 and 1872, in both of which a large proportion of the mortality was due to cholera. In 1875 only one death is ascribed to this disease.

The extent to which the ten chief forms of sickness contributed to make up the admission-rates of the different parts of the Native Army of this Presidency are shown in the annexed statement :—

Diseases.	Admissions per 1,000 of average strength.			
	Regular Native Army.	Central India Regiments.	Punjab Frontier Field Force.	Madras Regiments serving in Bengal.
1. Fevers - - -	598	298	915	470
2. Wounds and accidents - - -	131	108	143	67
3. Abscess and ulcer - - -	97	92	138	66
4. Dysentery - - -	72	34	68	15
5. Respiratory diseases - - -	51	42	96	23
6. Rheumatism - - -	46	43	53	43
7. Venereal diseases - - -	41	32	30	21
8. Diarrhoea - - -	35	24	41	14
9. Eye diseases - - -	28	84	31	76
10. Spleen disease - - -	11	2	14	4
Total of the ten -	1,110	759	1,529	799
Total from all causes -	1,233	884	1,662	888

In all cases the first nine diseases are the same and preserve much the same order, repeating in both respects the experience of former years. The tenth in none of them attains any prominence; in one, spleen disease, which occupies this position in the Regular Army, is replaced by small-pox, contributing, like it, a very small ratio. The ratios of both the Central India and Madras Regiments compare favourably with those of the other two divisions. Under eye diseases, however, the admission-rate in both was high. The excessive ratio for the Punjab Frontier Field Force was due chiefly to fevers and respiratory diseases. The fever ratio here exceeded the admission-rate from all causes in both the Madras and Central India Corps.

The ten principal causes of mortality stand in the following order :—

Diseases.	Died per 1,000 of average strength.			
	Regular Native Army.	Central India Regiments.	Punjab Frontier Field Force.	Madras Regiments serving in Bengal.
1. Respiratory diseases - - -	3·17	2·48	11·19	2·01
2. Fevers - - -	2·56	·68	3·13	3·16
3. Cholera - - -	1·69	1·81	·10	·29
4. Dysentery - - -	·92	·23	·91	·29
5. Diarrhoea - - -	·82	·68	·10	·29
6. Phthisis pulmonalis - - -	·77	·45	·60	·29
7. Spleen disease - - -	·56	—	·50	—
8. Atrophy and anæmia - - -	·36	·68	·20	·57
9. Apoplexy - - -	·33	—	—	·29
10. Wounds and accidents - - -	·28	·45	·40	·57
Total of the ten -	11·46	7·46	17·13	7·76
Total from all causes -	13·55	10·39	19·35	8·90

The ten diseases named are almost the same as those which have occupied the first places in former years. Taken as a whole, the Gangetic Provinces yield the most favourable return, for, although the admission-rate (896) and the sick-rate (31) were both higher than in the Meerut and Rohilkund group (835 and 28), the mortality was at the minimum of 5.05. The Punjab Frontier Field Force gives the highest admission-rate, but in Bengal proper and Assam both the daily sick-rate and the mortality were at the maximum.

The monthly variations in the daily sick-rates are chiefly remarkable from their being generally at a minimum during the hot months, rising considerably in the autumn, and remaining high during the early part of the cold season—a contrast to what is usually observed among European troops. The death-rate, in even a more marked manner than the sick-rate, bears heavily on the Native troops during the cold months. In the Regular Native Army, for example, the maximum mortality was in January, and the three cold-weather months, December, January, and February, all present comparatively high ratios. In the Punjab Frontier, where the cold is more severe and long continued, the contrast is very marked. Here during the six hot months, May to October, the deaths numbered 38; in the other, or cold half of the year, they numbered 154.

Standing fifth in order of prevalence, respiratory diseases occupy the most prominent place as a cause of mortality. In all parts of the Presidency individual stations present a high ratio of admissions from this cause. Two stations in Assam, Tezpur and Dibrugarh, give the maximum of 209 and 114 per 1,000, but it is in the Upper Provinces, and especially in the North-Western Frontier, that these diseases most generally prevailed. It was in this part of the country also that they were especially fatal. In the Regular Native Army, out of a strength of 15,355 quartered in the Punjab, there were 83 deaths from this cause, while the total in all the other provinces was 41. In the Punjab Frontier Field Force they account for more than one-half of the heavy death-rate. Lung affections have long been recognised as one of the most fruitful causes of mortality in the Native Army. Like fevers, they fluctuate greatly in different years, and the past year was one in which the troops in Upper India suffered from them in a very unusual degree.

Respiratory diseases.

The great importance of fevers as a cause of admissions into hospital is apparent from the figures already cited. These fevers are classed under two heads, "Intermittent" and "Remittent and continued;" a few cases have been entered as "Enteric," but the number is very small, only 10 among the whole of the Native troops of the Bengal Presidency. Whether these few cases represent a specific disease, or whether they merely developed enteric complications, the great mass of the fevers from which Natives as well as Europeans in India suffer are undoubtedly malarial.

Fever.

In the Regular Native Army, the groups show great variations in the prevalence of fevers. In the third group (Meerut and Rohilkund) the ratio of cases was only 323 per 1,000, whereas in the Punjab it equalled 800. In the Punjab Frontier Field Force it attained the maximum of 915. In nearly all the groups individual stations present very high admission-rates from fevers. In Bengal proper, for example, with an average of 681, Dum Dum and Berhampore each suffered to more than double that extent. In the second group (Dinapore, Benares &c.) only one station, Goruckpore, yields a ratio above 1,000. In the third group the highest is 912 at Delhi. In the fourth (Agra and Central India) none of the stations suffered from fevers in a marked degree. In most of the Punjab cantonments fevers were very prevalent. At Meean Meer the admission-rate from this cause was 1,204. Omitting small bodies of men, the maximum was 1,429 at Peshawur. At Kohat and Edwardesabad, also, the cases of fever were very numerous. No class of diseases presents more remarkable fluctuations than fevers. In the Punjab Frontier Field Force, for example, during the ten-year period 1864-73, the annual admission-rates due to them ranged between 437 and 1,478. In the Regular Army quartered in the Punjab it ranged between 469 and 1,200. It is apparent that the causes which produce a marked prevalence of such fevers over a large area in one year are comparatively dormant in another. What these general causes are is still very obscure. In a practical point of view the great object is to discover the local insanitary conditions of each place which act prejudicially at all times, and specially so when such general influences are at work. On this point more specific information is required in the annual sanitary reports from each cantonment.

SECTION IV.

JAILS (BENGAL).

Sickness and mortality in jails.

For the jails of the Bengal Presidency the results of the two past years stand thus as compared with those of the ten-year period 1864-73:—

Period.	Average annual strength.	Sickness per 1,000.		Deaths per 1,000.	
		Admissions.	Daily sick.	Cholera.	All causes.
1864-73	58,232	1,050	32	5·24	46·09
1874	72,060	1,027	34	2·48	39·90
1875	71,414	942	31	2·35	33·65

It is gratifying to find that under every head the statistics are in favour of 1875. In 1871 the admission-rate was only 927; in 1868 and 1871 the sick-rate was 29, and in 1870 it equalled 30; in 1868 the mortality was only 30·28; but with these exceptions the results of 1875 are more favourable in every respect than those of any of the preceding eleven years.

The ten forms of sickness which chiefly contributed to the admissions into hospital, as compared with 1874, were as follow:—

Diseases.	Admissions per 1,000 of average strength.	
	1874.	1875.
1. Fevers	445	398
2. Abscess and ulcer	106	99
3. Dysentery	101	95
4. Diarrhoea	96	90
5. Wounds and accidents	44	42
6. Respiratory diseases	45	37
7. Venereal diseases	15	20
8. Rheumatism	19	16
9. Atrophy and anæmia	14	16
10. Eye diseases	12	11
Total	897	824
Total admission-rate for the year	1,027	942

Under every head of importance the ratios of 1875 are less than those of 1874. For the ten-year period the average admissions due to all these diseases have not been separately compiled, but, taking those which are most prevalent, it appears that fever fluctuated between 379 and 514; dysentery and diarrhoea together between 168 and 221; respiratory diseases between 30 and 44; and atrophy and anæmia between 8 and 19 per 1,000.

The chief causes of mortality are represented in the following order:—

Diseases.	Deaths per 1,000 of strength.		
	Average for the 10 years 1864-73.	1874.	1875.
1. Dysentery and diarrhoea	18·20	16·38	12·38
2. Respiratory diseases	4·00	6·02	5·01
3. Fevers	7·96	3·72	4·20
4. Cholera	5·24	2·48	2·35
5. Phthisis pulmonalis	1·88	2·51	1·86
6. Atrophy and anæmia	2·52	2·37	1·65
7. Spleen disease	·37	·37	·77
8. Dropsy	·81	·85	·67
9. Wounds and accidents	·62	·69	·62
10. Apoplexy	·63	·31	·52
Total	42·23	35·70	30·03
Total annual death-rate	46·09	39·90	33·65

The diminution in the mortality as a whole is very satisfactory, and it appears all the more so when the statistics of the individual years which make up the ten-year period are examined. For example, the death-rate from dysentery and diarrhoea varied during that period between 24 and 12 per 1,000; in only one of the ten years was it lower, and then by only .36, than in 1875. Excepting 1871, when it was only 1.10, the cholera ratio varied between 12.10 and 2.48. Considering the wide-spread prevalence of the disease in 1875, the ratio of 2.35 is eminently satisfactory. In the whole sanitary history of the jails there is perhaps no fact more instructive and encouraging than the diminution in this disease.

In the first group, which comprises the jails of Bengal proper and Assam, the average strength (16,902) was much the same as it was in the previous year (16,922). During the ten years 1864-73 it increased from 14,441 to 16,147, but the increase was not gradual throughout the period. In 1866, the year of the famine, there was a sudden rise from 14,598 to 16,794. It may then be said to have gradually declined to a minimum of 14,026 in 1871, since which time it has again increased. The facts as to strength are of great importance, as they are intimately connected with the evil of overcrowding. The admissions in this province during 1875 equalled 1,334, compared with 1,412 in 1874, and an average of 1,386 during the ten-year period; the sick-rate shows no great difference, for it was 41, compared with 39 in 1874, and 41 in the ten years. The mortality, 49.88, is less than 52.24, the ratio for 1874, and still more favourable than 57.91, the average for the ten years 1864-73. Cholera, fever, dysentery and diarrhoea, phthisis pulmonalis, dropsy, and atrophy and anæmia, all contributed to the death-rate in excess of the average for the Presidency as a whole, and under the head of dysentery and diarrhoea the excess was great.

Sickness and mortality in groups: Bengal proper.

In many of the jails of this group both sickness and mortality were very great. In 23 out of the total of 45 the admissions into hospital were more than 1,000, and in 6 of these 23 they were more than 2,000 per 1,000. The maximum admission-rate was 3,854 at Dibrugarh, but the number of prisoners confined here was very small. Among the jails of any size, the Presidency jail gives the most unfavourable return—a ratio of 2,841 cases per 1,000. Of these, 834 were due to dysentery and diarrhoea. But high as was the proportion of sickness in this jail, the deaths were but few, for the total mortality equalled only 16.13 per 1,000. Only seven of the other jails in this province show a more favourable result. In many the mortality was very high. In 18 it exceeded 50 per 1,000; in five of these it exceeded 100 per 1,000; and at Julpigoree it attained a maximum of 255. Here, as in all the other jails where the death-rate was heavy, the main causes to which it is ascribed were dysentery and diarrhoea. In the Julpigoree jail, of 37 prisoners who died, 21 are returned as having died from these diseases. To them were due 354 out of the total of 843 deaths in this first group.

In many of the jails grave sanitary defects existed, the most common of which was overcrowding. At Maldah, for example, "during the months of November and December the overcrowding in the criminal ward was excessive." At Mymensing, it is said, "the jail buildings were condemned many years ago. The hospital is the worst building in the jail; it is low-roofed, therefore not well ventilated; it is low-floored, therefore damp; and altogether the place is quite unfitted for the purpose for which it is intended." The drainage is described as imperfect. Many of the prisoners suffered from scurvy. For nearly five months from 80 to 90 had lime-juice and limes given to them, and extra vegetables from the jail garden all the year round. Of the number in jail on the 1st January 1876 no less than 90 were found to be more or less scorbutic, and a large proportion of the cases of dysentery were associated with scorbutic cachexia. Many of the prisoners came into jail in a bad state of health. The Presidency jail was overcrowded during a portion of the year. During the rains the large surface drain in the *maidan* becomes tidal. As the drain passes through a very dirty and densely populated village before it reaches the jail, the inhabitants of which make a privy of it throughout the whole year, a large quantity of animal *débris* is carried up and deposited close to the jail walls. In the Alipore jail there was overcrowding during the latter half of the year. In October this was extreme; scurvy was prevalent, and the sickness and mortality were generally high. The Nuddea jail was "crowded throughout the year." The Moorshedabad jail was "crowded in January, September, and December." In the Rungpore jail there was "much overcrowding"; here scurvy was common among the prisoners: of 60 who died during the year from different diseases, 55 were more or less affected by it. At Bogra there was "overcrowding in July, August, and December." The Pubna jail was "generally more or less overcrowded."

In the Backergunge jail, "in consequence of the raised plinths being of earth, the floors are constantly damp. Damp ascends the walls to a height of six feet during the rains; ventilation is not satisfactory." At Sylhet "during the greater part of the year the capacity of the jail, the female ward excepted, was much below the demands upon it; * * * a constant urinous smell hangs about the ward privies." Thirteen per cent. of all the prisoners admitted into hospital were suffering from scurvy. It is common among the new prisoners; many lose their scorbutic symptoms in jail; extra vegetables seemed to have little effect in improving their condition. At Gowhatty "the mud floors of the sleeping wards are damp during the rains." At Balasore there "was overcrowding in the month of June in five of the wards; the drainage is not good; during the rains it is almost impossible to keep the workshed dry." At Purneah there was "a chronic state of overcrowding throughout the year."

The many and great defects which still exist in the jails of those Lower Provinces are not unknown to the authorities, and the remedying of them has been a matter of anxious consideration. The difficulties to be contended with are exceptionally great.

Gangetic
Provinces
and Oude.

In the second group the strength averaged 25,054, compared with 25,482 in 1874, and 18,684 for the ten preceding years. The admission-rate was 651 per 1,000, against 788 in 1874, and 817 in the ten-year period. In this group the admissions have very markedly diminished. In 1864 they equalled 930, and from that year to 1874 were never less than 727. The ratio for 1875 is thus lower than any previously recorded. The daily sick-rate, 22, also compares favourably with 26 in 1874. During the ten-year period 1864-73 it fluctuated between a minimum of 23 and a maximum of 31. The death-rate for 1875 (24·95) is markedly less than that of 1874 (37·05), and still more so than that of the ten-year period (45·61). During these ten years it never was less than 28·22, and in both 1864 and 1865 it exceeded 67 per 1,000. The results of 1875 in this group stand, therefore, in very favourable contrast to those of earlier years.

The jails of the second group present very marked extremes in the extent of both sickness and mortality. The admission-rate varies from a minimum of 155 per 1,000 in the Ghazee pore district jail, and 179 per 1,000 in the Allahabad central prison, to 2,227 at Gya. In 17 of the 41 jails the rate was under 500 per 1,000. In 12 it varied between 500 and 1,000, in 12 it exceeded 1,000, and in 2 of these 12 it was more than 2,000. The two jails where sickness was so prevalent were Chyebassa and Gya; at Gya the sickness was of a serious character. Of the total ratio, 1,195, or more than one-half, was due to dysentery and diarrhoea. In this jail also the mortality was very high, 118·34 per 1,000, 29 out of 40 deaths having been ascribed to these diseases. The death-rate at Gya far exceeds that of any of the other jails of this group, but there are 8 others in which it exceeded 50 per 1,000. On the other hand, many of the jails show excellent results; in 17 of them the mortality was less than 20 per 1,000, and in 7 of these it was under 10. The remarkably low death-rates of 2·99 at Roy Bareilly, 2·56 at Hardoi, and 5·91 in the large central prison at Allahabad, are deserving of notice. In the second as in the first group, dysentery and diarrhoea play a most important part; of the total of 625 deaths from all causes, 288 are returned as due to these diseases.

In this group also there are examples of sanitary defects, though the instances are rare compared with those in Bengal proper and Assam. At Ranchee it is noted that there was frequently an excess in the number of prisoners, and both at Patna and Shahabad there was at times some overcrowding; at Sultanpore the accommodation for male convicts was considerably below requirements for five months, this excess above capacity being at one time as great as from 100 to 119. The Unao jail was, "as usual, over-crowded."

Central
Provinces.

The number of prisoners in the third group is comparatively small. In 1875 it averaged only 2,434, in 1874 it was much the same (2,445), but during the ten-year period 1864-73 it stood at 4,445. The admission-rate, 1,046, was less than that of 1874, when it equalled 1,191; for the ten years it averaged 1,458, ranging from 1,012, the minimum in 1873, to 1,738, the maximum in 1869. The daily sick-rate in 1875 was 41; in 1874 it was 42, and in the ten-year period 48. The mortality of 1875 (36·15) somewhat exceeded that of 1874 (33·13); but for the ten-year period it averaged 52·31, reaching the minimum of 26·83 in 1873, and the enormous maximum of 104·77 in 1865. In 1875 there was no great mortality from any one cause. Of the 88 deaths, 17 were due to cholera, 16 to dysentery and diarrhoea, and 12 to respiratory diseases.

As regards the 16 jails which comprise the third group there are few points which require special notice. In most of them the population averaged only a small number; in only 7 out of the 16 did it exceed 100, and in only 2 jails was it over 200. Dealing with

such small numbers, apart from all other considerations, great fluctuations may be looked for. The admission-rate varies from 359 per 1,000 at Mandla, to 3,558, or ten times that rate, at Sehore, a result mainly due to the prevalence of intermittent fever in this last jail. In none of the jails was the mortality very heavy, except at Bilaspur, where cholera caused 12 out of the total of 19 deaths, or 171·17 per 1,000; at Chanda, where 7 fatal cases out of a small strength yield a high ratio, 101·45; and at Hoshungabad, where the death-rate, apparently due to no special disease, equalled 71·90 per 1,000.

At Bilaspur there was "overcrowding in the male convicts' barracks." At Nursingpore there "was overcrowding at times." In the Hoshungabad jail "crowding occurred on several occasions." At Bhandara "the average number of prisoners during the year has been in excess of the accommodation." The Inspector General of Prisons in his annual report notes that in some of the jails the supply of vegetables was defective, and the diet not according to orders. In some of them the prisoners suffered from spongy gums, and in others boils and ulcers were more common than usual.

The fourth group has been separated only since 1870. During the five years 1870-74 the admissions fluctuated between 704 and 955 per 1,000, the daily sick between 26 and 37, and the death-rate between 19·73 and 33·73. In 1875 the ratios were, for admissions 733, for daily sick 32, and for deaths 25·13; the year thus holds a medium place. The causes of death which were most active in this group were dysentery and respiratory diseases, which accounted respectively for 51 and 34 deaths.

In this group there are only 9 jails, but the average strength was much higher than that of the 16 jails of the third group. Among these 9 jails the admission-rate varied from 1,507 at Saugor to 338 at Jhansi; at Ajmere the ratio was 1,259. With the two exceptions named it did not equal 1,000 in any case. At Jhansi the mortality was highest, namely, 51·64 per 1,000; the next highest rate was 38·52 in the Agra district jail; then 28·89 at Jubbulpore; and 23·76 in the Agra central prison. In none of the others did it exceed 20; at Muttra it was at the minimum of 5·05.

At Jubbulpore no sanitary defect is mentioned, but the results were very unsatisfactory. At Saugor the female prisoners were overcrowded. At Muttra there was overcrowding from June to October. In the Agra central prison "the capacity in relation to population has been at times under the standard allowance;" in the Agra district jail the "drainage is not good."

In the fifth group, between 1870 and 1874 the admissions into hospital reached a maximum of 946 in 1872, and a minimum of 779 in 1870; in this last year the daily sick-rate was also at its lowest (24); in 1874 it attained to 43. During all these five years the mortality was very high, never under 46·40, and in one of them mounting up to 56·04. For 1875 the proportions are, for admissions 588, for daily sick 25, and for deaths 34·81; there has thus been a marked diminution in the sickness, and also in the mortality, though it was still high. Of the deaths the largest proportion (8·44) was from respiratory diseases; dysentery and diarrhoea contributed nearly as much (8·18); and fevers 6·33 per 1,000.

This group comprises 17 jails. Only in the Meerut district jail did the admission-rate exceed 1,000, and here it was 1,125. At Moradabad the ratio was only 328. In 1874 the admission-rate in the Meerut central prison was 1,699, and in the district jail 1,860. In respect to mortality also there has been considerable improvement. In 1874 in the Meerut central prison it equalled 128·37; in 1875 it was 54·05. This is the highest ratio of mortality among the jails of this group in 1875, but in the Bareilly central prison it was nearly as much (53·44); in none of the others did it equal 50. In four of them it was under 10; at Bijnour it was at the minimum of 5·03—omitting Dehra, where, in a very small body of prisoners, there was no death during the year.

At Etah "the accommodation was insufficient, but overcrowding was prevented by the use of one of the factory barracks and three small tents as dormitories." At Aligurh the excess prison population was "accommodated in worksheds." In the Bulandshuhr jail there was "constant overcrowding." In the Shahjahanpur jail there was "a good deal of overcrowding, particularly from July to October." The Budaon jail was "overcrowded throughout the year;" in the Bareilly central prison there was "unavoidable overcrowding." The Bareilly district jail also was overcrowded. In the Bijnour jail there was "partial overcrowding."

The sickness in the Punjab jails, 1,234 cases per 1,000, considerably exceeded the ratio of 1874 (1,096), and also the average of the ten-year period 1864-73; the daily

Agra and
Central
India.

Meerut and
Rohilkund.

Punjab.

sick-rate, 36, was also above that of 1874 (34), and that of the ten-year period (29). The death-rate, 31·71, on the contrary, was more favourable than either that of 1874 or the average of the previous ten years. Of these ten years several yielded results much better than those of 1875. In 1868, for example, the admissions equalled only 790, the daily sick 23, and the deaths 12·39 per 1,000. In 1875 fevers, bowel complaints, and respiratory diseases were all prevalent and fatal. The variations in respect to chief forms of sickness which are presented by different years are well seen by comparing the figures of 1875 with those of 1868. In 1875, for example, fevers caused 707 admissions, and 7·53 deaths per 1,000; in 1868 the ratios were 367 and 2·99. In 1875 dysentery and diarrhoea caused 139 admissions and 7·53 deaths; in 1868 the proportions were 88 and 3·08. Again, in 1875, respiratory diseases accounted for 56 cases and 7·81 deaths, whereas in 1868 they accounted for only 29 cases and 2·08 deaths per 1,000.

Many of the Punjab jails suffered much from sickness. In 16 out of the 30 the admission-rate exceeded 1,000; and in two of these, Rupar and the Lahore female jail, it was more than 2,000. At the first of these the maximum was attained of 2,487 cases per 1,000; in both fevers account for a large proportion of them. On the other hand, a few of the jails suffered little. At Umballa the admissions equalled only 373 per 1,000, and at Gujranwala there was the minimum of 329. Similar extremes are to be found in the death-rates; at Gujerat it was only 6·87, and at five others it was under 10. In the following jails the loss was very heavy. Lahore central jail 59·01; there were 130 deaths, of which 35 are returned as due to respiratory diseases. Lahore female jail 109·37; of 21 deaths, 12 were due to fevers. Bannu 140·35; but, of the 16 fatal cases, 6 were the result of wounds and accidents.

In the Punjab jails the chief insanitary condition which has been mentioned is overcrowding. This defect is noted at Delhi, Gurgaon, Jullundur, and Sialkot; at Gujerat the overcrowding was lessened by using the workshed for dormitories; an arrangement, however, which cannot be regarded as a remedy for this great evil. At Dharmasala and Mooltan there was some overcrowding in the female wards. At Kurnool there was "very great overcrowding." At Peshawur there was "considerable overcrowding." The Superintendent of Dera Ismail Khan jail estimates that there is room in it for 450 prisoners; the average number confined in 1875 was 628, and at one time there were as many as 719; the evil was diminished as far as circumstances would allow by placing some of the prisoners in the worksheds, some in tents, and allowing others to sleep in the open air; seven cases of typhus fever are reported to have occurred among them.

The details of the sanitary condition of certain jails have been taken from the reports of the medical officers, and reproduced generally in their own words. In regard to many of them more exact information is desirable than that which has been furnished. The very important question of sufficient space is sometimes unnoticed, in other cases it is said generally that there was "some overcrowding" or "slight overcrowding," without showing to what extent and for how long a time it existed. It not unfrequently happens that defects in drainage or other points are passed over with the remark that they need not be described because they have been noticed in previous reports. But this arrangement is unsatisfactory; so long as sanitary defects exist they should be carefully and fully brought to notice every year until they have been either altogether removed or remedied as far as they can be. Continually calling attention to the local insanitary conditions of the jails under their charge is in fact one of the most important duties devolving on medical officers. The fact that such conditions are not invariably associated with excessive sickness and mortality, a fact which is well known, and is again illustrated in the experience of 1875, is no evidence that they may be allowed to continue with impunity; wherever they exist they are a constant source of danger.

SECTION V.

GENERAL POPULATION.

Vital
statistics.

In many parts of the country the registration of deaths is as yet so imperfectly conducted that any detailed analysis of the results would be merely a waste of time and labour.

Although the defects in registration are very evident, the difficulties to be contended with also are great; among a simple and yet suspicious people, the successful introduc-

tion of any system requiring them to record deaths, and still more, births, must be the work of time. The enormous area and vast population of many of the provinces, the sparse and scattered distribution of the latter in many parts of the country, the want of educated medical practitioners, and the ignorance and apathy, not only of the people themselves, but also of the village officials by whom the reports are made, all offer obstacles to correct registration which are well known in India, but which are apt to be lost sight of elsewhere. But with all these difficulties the progress made in certain parts of the country is most encouraging. In the Central Provinces, as a whole, the greatest progress has been made, and the results generally bear evidence of very creditable accuracy. During last cold weather I marched through a portion of these provinces with the Sanitary Commissioner, Dr. Townsend, and was much struck by the attention which had been given to the registration of both births and deaths. The neatly kept police station, with its register of such events, even in remote villages, cannot fail to have a civilising effect, and already it appears that the people have adduced entries in these registers as evidence in the law courts. With all its defects, the information which registration has supplied regarding the distribution of disease, and especially epidemic disease, over India is most valuable.

In every province the mortality among males exceeded that among females; in the Punjab, however, the difference was very trifling.

In all of the provinces, except Berar and Bombay, the ratio in towns is in excess, and in several of them markedly in excess, of the ratio in the country; but there is reason to believe that much of this is due to imperfect registration in rural tracts.

The results attained in the larger towns of the Central Provinces and in the municipalities of the Punjab, where special attention has now for some time been devoted to the subject, show a very high death-rate. In the former the ratio is 31·60, and in the latter no less than 43·71. Many of the towns are still in a most insanitary condition, and urgently require improvement.

In most provinces the results of registration of deaths according to age are evidently incorrect, the infant mortality being much under-stated. In the Central Provinces the returns seem fairly to approximate the truth, all the more so because, although the ratios vary in different years, there is a remarkable correspondence between the results of 1875 and those of the previous three years. The results of 1875 are as follow:—

1 year	=	135·6	per 1,000.
1 and under 6	=	33·0	"
6	"	12	= 12·4 "
12	"	20	= 9·1 "
20	"	30	= 10·1 "
30	"	40	= 14·3 "
40	"	50	= 22·7 "
50	"	60	= 41·0 "
60 and upwards	=	124·4	"

The statistics generally afford ample evidence that the birth-rate in India is very much higher than it is in European countries.

In every part of the country where the registration seems to have been fairly successful there is a marked preponderance in the male over the female births.

The improvement of the registration both of births and deaths, and the extension of the birth registration to all parts of the country, is most desirable. The registration of births should not be limited to selected areas or to municipalities, still less should it be altogether omitted as it has been in Oude. The registration of births or deaths in towns or selected tracts of country, even when it attains a fair degree of accuracy, will in no way aid its introduction among the people generally. Its success depends not so much on the efficiency of the machinery employed (for without the assistance of the inhabitants no registering agency, however perfect, can effect much) as on accustoming the people themselves to record such domestic events, with the full confidence and conviction that the work is undertaken for no other end than their own benefit. And it must be remembered that it aims not so much at deducing facts of scientific value bearing on the chances of life as at endeavouring to rouse the people to understand the needless waste of life which now takes place and to adopt measures for its prevention.

In Bengal proper small-pox was present more or less in every district. In 11 of Small-pox. them it was more prevalent than in the previous year; in 33 it was less. It was generally more fatal in those towns and districts where inoculation was still practised. In the

North-West Provinces, it prevailed to a serious extent only in Lalitpur and Banda to the south, and in Bijnor, Moradabad, Saharanpur, and Muzaffernuggur to the north. The continued exemption of Kumaon and Gurhwal, where vaccination has been carried on with so much success, deserves special notice. In Kumaon the deaths due to this disease equalled only .01 per 1,000, in Gurhwal .05, whereas in Lalitpur they amounted to 16.12. In the Punjab, it was most fatal in Gurgaon, Umballa, Kurnool, and Peshawur. In Jullundur, Gurdaspur, and other districts, where the people have become more sensible of the advantages of vaccination, the mortality was trifling. Of the total of 13,611 who died from it, 13,008 were children under 10 years of age. In the Central Provinces small-pox was much more severe, and caused the death of more than 20,000 people. In Nursingpore it reached a maximum of 16.96 per 1,000 of the population. Among children in this district it proved fatal to 41.79 of every 1,000. In Betul, Chindwara, Seoni, and Sumbulpore it appeared evidently to be greatly held in check by vaccination. In Berar the disease was less prevalent than in any year since 1871; in 1875 there were 927 deaths, compared with more than 8,000 both in 1872 and in 1873. In Oude it was much less prevalent than in 1874. In British Burma it nowhere assumed an epidemic form.

Fevers.

The deaths ascribed to fevers account for by far the largest portion of the total mortality. In Bengal proper it is gratifying to find that the severe and fatal fever which prevailed in Burdwan and other neighbouring districts has continued to abate as regards both the area affected by it and the intensity of the disease. It continued epidemic in the Midnapore district, but even here it declined in severity and did not extend beyond its former limits. In the North-West Provinces the parts chiefly affected were the Terai, and the districts of the Northern and Central Doab, a result as regards these Doab districts which the Sanitary Commissioner ascribes to the changed condition of the country and climate due to canal irrigation with imperfect drainage. In the Punjab and the Central Provinces the fever death-rate was higher than in any other parts of the country.

Bowel complaints.

Excepting in Berar, where the mortality under this head continued as in former years at a very high figure compared with other provinces, bowel complaints do not call for special remark. Of this excessive death-rate in Berar no satisfactory explanation has yet been given.

Vaccination.

In the Madras and Bombay Presidencies, the Central Provinces, Berar, Oude, and British Burma, vaccination has been included among the duties of the Sanitary Department, but in Bengal proper and Assam the work is carried on under the orders of the Surgeon-General of the Indian Medical Department, and in both the North-West Provinces and the Punjab there is a separate Superintendent-General of Vaccination who is directly responsible to the Local Government.

The very large establishment which is employed in nothing else but vaccination, and which, owing to the difficulty of propagating the vaccine vesicle during the hot weather and rains, is idle during a great part of the year, is deserving of notice. In both the Madras and Bombay Presidencies vaccination has now been amalgamated with other sanitary work, and the same system is in force in the minor provinces of the Bengal Presidency. There can be no question that, with judicious management, the large staff of superintendents, native superintendents, and vaccinators may in time render very valuable service in general sanitary work.

The proportion of success varies from 78.5 per cent. in Berar to 98.43 in the Punjab. The figures are taken from the Vaccination Reports, and in regard to the latter there is a discrepancy which has not yet been explained. In several of them there is a want of information as to how far the results entered have been verified by inspection.

The number of children operated on bears in every instance but a very small proportion to the birth-rate, even if that be calculated on the most moderate estimate. Natives generally have a prejudice against having very young children vaccinated, but even in this respect some progress is being made.

SECTION VI.

SANITARY WORKS (BENGAL).

During the financial year 1875-76 a grand total of Rs. 82,42,085 was expended on works designed more or less to add to the health and comfort of the troops, and more particularly of the British troops, in the Bengal Presidency. Of the above, Rs. 34,19,649 were devoted to original works, Rs. 22,33,435 to repairs, and the balance to establishment, tools, and plant. As regards British troops, the following may be cited :—

Military
works.

Calcutta.—Construction of a new female garrison hospital; additions and alterations to the Ravelin Gateway quarters, Fort William. Improvements to Queen's Barracks.

Barrackpore.—Supplying Calcutta municipal water for cooking and drinking.

Hazareebagh.—Alterations and improvements to temporary barracks.

Darjeeling.—Building cottage barracks for single men, and barracks for married men at the depôt, with subsidiary buildings, and a female hospital; constructing cottage barrack for the battery of Royal Artillery, also a canteen and cook-houses.

Dinapore.—Improving family barracks; clearing and levelling ground round huts in Sudder Bazaar.

Allahabad.—Adding cook-houses and other subsidiary buildings required for the new Royal Artillery lines. Remodelling and completing their barracks with additional louvres. Building cook-houses for the family quarters of the British Infantry Regiment.

Pachmarhi.—Constructing subsidiary buildings for single men's barracks and a hospital.

Lucknow.—Wash-house and cook-house for military prison; remodelling and repairing barracks for Artillery, Cavalry, and Infantry.

Sitapur.—Sun-shades for barracks.

Fyzabad.—Improving and rebuilding barracks for Infantry.

Nowgong.—Improving the Dhorie Nullah.

Agra.—Louvres for barracks. Constructing family quarters for Infantry, with subsidiary buildings.

Meerut.—Clerestory windows to Royal Artillery barracks; bath-rooms for family quarters of Infantry; drainage works.

Roorkee.—Additional accommodation for married men of Sappers and Miners.

Chukrata.—Constructing hospitals; family quarters; barracks for single men.

Morar.—Cook-houses for family quarters. Louvres to verandah openings of barracks. Improvements to drainage.

Gwalior Fortress.—Cook-houses for family quarters; subsidiary buildings for hospitals; louvres to verandah openings.

Ranikhet.—Family quarters with subsidiary buildings; hospitals; huts for men on the Chowbuttia hill, with subsidiary buildings and reservoirs for water.

Umballa.—Improving the water-supply, and preliminary operations for a complete project.

Dagshai.—Improving barracks and constructing subsidiary buildings.

Kasauli.—Building school-rooms.

Subathu.—Building new barracks.

Jutogh.—Family quarters and subsidiary buildings.

Jullundur.—Ceiling to upper stories of barracks; cook-houses for barracks.

Dalhousie.—Water supply.

Ferozepore.—Constructing hospitals.

Mooltan.—New barracks for European Infantry.

Meean Meer.—Water-supply and drainage works.

Rawulpindee.—Sun-shades to clerestory windows; fireplaces in barracks; extension of gas for lighting.

Campbellpore.—Improving barracks.

Kalabagh.—Family quarters; lavatories; out-offices for hospital.

Chungla Gully.—Family quarters.

Peshawur.—Fireplaces in barracks; sun-shades over clerestory windows; improving drainage; water-supply project.

Among works designed to improve the accommodation for Native troops may be mentioned a new hospital at Alipore for the Infantry; a new hospital at Benares for the Infantry; enlarging the quarter-guard of the Infantry regiment at Cawnpore; a new hospital for the Infantry regiment at Saugor; a new hospital for the Goorkha regiment at Dehré Doon; sinking new wells in the Cavalry lines at Morar; additions and alterations to the

hospital of the Goorkha regiment at Bakloh ; a new barrack for the Goorkha detachment at Kangra ; enlarging and improving the Goorkha hospital at Dharmsala ; and constructing a new hospital for the Infantry at Nowshera.

In the above are not included other projects which are still in preparation, such as the drainage of Lucknow and Cawnpore, and a proper water-supply for Umballa. Measures are also being taken to improve the water-supply of all stations, so as to avoid all sources of contamination. Plans have been prepared of the arrangements for pumps and filter beds to be attached to wells at each station.

Canton-
ments.

The following is a summary of improvements effected during the year in cantonments. A few works are entered which have already appeared in the above summary of military works, but as a rule they are of a minor character.

Station.	Improvements.
Fort William	- New drain constructed on the south side of prison.
Dum Dum	- Latrine provided for Sudder Bazaar, and the drainage of this bazaar improved.
Hazareebagh	- The barracks occupied have been thoroughly repaired, and intermediate barracks dismantled to permit freer circulation of air.
Bhaugulpore	- Ground has been taken up, and latrines are being established for the regiment.
Darjeeling	- There have been built a new hospital for females, new cook-rooms and store-room for hospital, ten new family quarters with latrines and cook-rooms, three dry-earth sheds, and a new canteen. A saucer drain has been made round the hospital. No. 3 Barrack has been rebuilt in part and improved. Canteen improved, and a number of trees planted.
Buxa	- Latrine provided.
Cachar	- Barracks improved by plastering inside and out.
Shillong	- The water-course improved by the addition of an aqueduct to carry it over a marshy spot where it was formerly contaminated by drainage. Porches added to many of the huts. A few public latrines have been erected.
Benares	- A small building transferred from Infantry to Royal Artillery.
Cawnpore	- Additional surface drains made. Trees planted.
Lucknow	- Some improvements in drainage.
Sitapur	- A tank filled up, and trees planted.
Fyzabad	- New barracks in progress.
Goruckpore	- Some excavations filled in, and others dressed. Trees planted. Urinals erected.
Jubbulpore	- Drainage being improved.
Nowgong	- Sides of nullah which runs through Sudder Bazaar being dressed.
Morar	- Sudder Bazaar drains being improved. Holes in the course of Biswas Nullah filled up. Offensive tank in Fort emptied, and being thoroughly cleaned. New Commissariat lines built. New Native Cavalry lines being laid out.
Shahjahanpur	- Drainage improved.
Meerut	- Extensive drainage works in progress. Vaccination carried out to a much greater extent than ever done previously. Trees thinned ; high mud walls replaced by open masonry work, and tumble-down huts removed.
Roorkee	- Drainage has been much improved.
Chukrata	- Great improvements made in roads.
Agra	- Additional family quarters being constructed.
Muttra	- Drainage improved by masonry drains.
Kasauli	- Bazaar latrines improved.
Mooltan	- Market built.
Meean Meer	- Some masonry drains constructed.
Kangra	- A barrack in progress for Native detachment.
Rawulpindee	- Four pucca latrines built ; ravine improved.
Campbellpore	- Barracks being improved.
Attock	- Tank for water covered in and provided with a pump and taps ; water conveyed to tank in pipes.
Peshawur	- New waterworks in progress.

In forwarding the cantonment reports, the Quartermaster-General observes that "all deficiencies and defects brought to notice in them have received full consideration, and that remedial measures are being taken under the orders of His Excellency the Commander-in-Chief."

The supervision of villages in the neighbourhood of military cantonments, and the improvement of their sanitary condition, is a matter to which the attention of the local Sanitary Commissioners has been specially directed. At first it was proposed that an area of 30 miles round each cantonment should be selected for the purpose. But the labour involved would be enormous, and without a special establishment its accomplishment would be impossible. An area of 30 miles round each cantonment means an area of 3,600 square miles of country in each case with many hundreds of villages scattered over it. The area has accordingly been reduced to 5 miles round each cantonment. Even in this comparatively limited tract, however, the difficulties are great. A Sanitary Commissioner, single handed and with many other duties to attend to, cannot devote much time to the inspection of villages; but it is hoped that with the incorporation of the vaccination establishment as part of the Sanitary Department in each province, which has been already carried out in certain local Governments and Administrations, machinery may become available for pointing out defects in villages and for impressing on the inhabitants the great importance of remedying them. The improvement of these villages, and especially of those which lie on the outskirts of cantonments, is most desirable, all the more so because their removal, which has been urged in certain cases, would involve a very large expenditure, and their transfer to any distance would materially affect the comfort and convenience of the inhabitants, who are generally agriculturists living on the land they cultivate.

Sanitary supervision of villages round cantonments.

The advantages of having filter beds attached to wells seem to be great as compared with the present system of barrack filters. The water will be passed through a greater depth of filtering material, and will therefore be more thoroughly acted on; one filter bed requires less attention and is much more likely to be properly looked after than numerous barrack filters. Moreover, having the filter in the open air, and arranged so that the water passes into it direct from the well, and is drawn off from it only as required, is much to be preferred to a system under which the water before passing through the filter is exposed for hours, and it may be in part for days, to the impure gases and other impalpable matters which must more or less exist in the air of barracks, and even of barrack verandahs, and which there is no evidence that the filter can altogether remove.

Filtration of water.

The Macnamara barrack filters have been found to corrode very rapidly, especially at certain stations; so rapidly in fact that at some of them these filters in a few months were riddled with holes and became altogether unserviceable. In accordance with Dr. Macnamara's suggestion, certain experiments have been undertaken to test the protective power of modifications which he recommended in the hope of remedying this defect. In some of the filters the zinc of which the filter is constructed was connected by means of a piece of india-rubber tubing with the brass cock from which the water is drawn. Others were coated inside with naphtha varnish. The results of these experiments show that the india-rubber tubing exercises no influence in preventing the corrosion. On the other hand, when properly prepared and applied, and not rubbed off, as it is very apt to be, the naphtha varnish is a complete protection, but at times it taints the water and renders it unfit for drinking. Orders have accordingly been given for the issue of proper naphtha varnish, but, as stoneware presents many advantages over zinc, and is not likely to be more expensive, even if allowance be made for breakages, 50 Macnamara filters of this material have been ordered from England as an experiment. If barrack filters are to be retained, and the Macnamara filter permanently adopted, the stoneware will in all probability be found most suitable.

In all filters the filtering material is of great importance, and of all such materials animal charcoal seems to be the most valuable. It is worthy therefore of notice that Dr. Tulloh, of the 1-11th Regiment at Jubbulpore, has succeeded in manufacturing animal charcoal on the spot, which has been pronounced by the Chemical Examiner to be of good quality, and there seems no reason why this material should not be manufactured in like manner at every station for local use. The animal charcoal employed in the filters used formerly to be purified by means of certain chemical re-agents, but Surgeon-Major Davie, of the Army Medical Department, has shown that the same result can be obtained just as effectually and more economically by means of roasting, and the method he has recommended for this purpose has been generally introduced.

A new form of filter devised by Dr. Nicholson, of the Army Medical Department lately serving in the Madras Presidency, is now under trial, but no report has yet been received of its working, and it cannot therefore be said whether it possesses any advantages over the Macnamara filter, in place of which it was recommended.

**Water-
at hill
stations.**

At many of the hill stations the supply of water is short; at few does it equal the very moderate allowance of 10 gallons a head for European soldiers, and 5 for women and children. The best means of remedying this defect has lately been under consideration. The difficulties are peculiar; water has generally to be brought from a long distance down the hill, and the cost of carriage is great. There are very few hill stations where the surroundings admit of the water being led in from a neighbouring height, as has lately been done at Dalhousie, for in most cases the station occupies the highest point for many miles round. Under these circumstances, the only resource seems to be to construct tanks to collect rainfall, which at all hill stations is abundant, and there can be no doubt that in this way an ample supply might be obtained in every respect suitable for all purposes except drinking and cooking, for which the springs supply abundance.

**Conser-
vancy.**

Special reports on the dry-earth conservancy as used by British troops show that, after extended trial, the system has all the merits which were claimed for it. They bear remarkable testimony to its great value, and to its vast superiority over every other form of conservancy which has yet been tried in Upper India. Where carefully carried out, the results are admirable, and, as a rule, great pains are taken by the regimental authorities to see that it is properly looked after. The most common defect is the imperfect pounding of the earth, which, unless in fine division, loses much of its deodorizing power. The coarser the powder the more earth is needed, and the weight of the sewage is needlessly increased. To this point attention has been drawn, and also to the importance of cultivating the trenched ground where the sewage is deposited, and which, if properly managed in this respect, need be at no great distance from the barracks.

Further experience of the trench system of latrines for Native troops has also been on the whole satisfactory. Where well looked after it has been attended with considerable success, and the prejudices of the Native soldiers, who are averse to any form of latrine, seem to be diminishing. Certain proposals for rendering these places more private and more secure against storms and high wind have recently been sanctioned, and the importance of cultivating all such trenched ground has once more been impressed on the local authorities.

Civil works.

In reviewing the reports of the local Sanitary Commissioners under this head, attention can be drawn only to the more important points. Few great civil sanitary works have yet been undertaken, but much is being done to arouse the attention of the people to the necessity of taking measures for the improvement of the public health, and, as this education advances, the demand for such works must rapidly extend.

Bengal.

In Bengal proper the most noteworthy facts in the sanitary history of the year are the appointment of a Health Officer to superintend the sanitation and conservancy of the Port of Calcutta; the passing of certain Acts by the Bengal Council to improve the laws regarding municipalities, of which sanitary clauses form an important part; and the passing of the Bengal Irrigation Act, which provides for the carrying out of drainage works or removing obstructions to drainage, when such works are necessary for the public health. Other Acts providing for the conservancy and improvement of towns, and also for the prohibition of inoculation, have been extended to places where they were not previously in force. Rules for the conservancy of villages have been re-circulated in the vernacular, and considerable benefit is reported to have resulted from bringing home to the people in this simple manner a knowledge of the conditions which promote health and prevent disease. Arrangements have also been made for dealing on a definite system with the defects in towns which are brought to notice on the inspections of the Sanitary Commissioner.

At Dacca, works for the supply of water are in course of construction.

**North-West
Provinces.**

In the North-West Provinces the most important sanitary improvement was the further extension of the drainage of the canal-irrigated Doab. During the year this work was pushed on with great vigour. The total excavation in connexion with the Ganges and Eastern Jumna Canals amounted to 39,134,302 cubic feet. Besides these, schemes were also in progress for the drainage of the towns of Saharanpur, Meerut, and of Muzaffernuggur. In the Terai, also, drainage has been effected for the removal of swamps and marshes, especially near the town of Kashipur. At Sambhal, in the Moradabad district, a cutting has been in great part completed to prevent the flooding of the town. At Cawnpore, new surface drains of proper level have been made, and in several towns of the Hamirpur district drainage improvements have been effected. At Benares two new roadways have been made through the town which will aid in its better

ventilation and conservancy. Besides these more important measures, Dr. Planck reports "the steady continuance of minor improvements in towns. So general and so well established," he adds, "has this business of improvement become that I think, as one of the results of my inspections of the last two or three years, better results would ensue if I gave my entire attention for a time to the inspection of the smaller towns, say such as have a population of from 3,000 to 5,000 inhabitants;" and again: "I do not hesitate to say that improvement has made and is making good way in the towns in question from one end to the other of the country. The English officials who know these towns so well and visit them so often, and the superior class of native officials, are, as one result of perfect education and extended reading, very far advanced in knowledge of sanitary matters, and convinced of the advantage of sanitary improvements."

In the Punjab many minor improvements have been carried out, but any great civil sanitary works have yet to be commenced. Several of these, however, have been projected—a water-supply for the town of Delhi, a water-supply and sewerage scheme for Lahore, a water-supply for Rawulpindee, and a general scheme of sanitary improvement, including water-supply and sewerage, for Simla. The waterworks at Peshawur progress but slowly, and no definite orders appear to have yet been given regarding the city portion of the scheme. In the course of his tour, the Sanitary Commissioner held conferences with 18 district committees, to which he explained the elementary principles of hygiene, and illustrated his remarks on the effect of sewage on water by simple experiments. These meetings excited much interest. The simple address which the Sanitary Commissioner delivered at them has been embodied in a pamphlet and widely circulated among the village population. By directing the minds of the people to sanitary evils, of the existence of which they had no conception, there is reason to believe that much good will be done.

The Sanitary Commissioner of the Central Provinces observes: "No works of any magnitude have been undertaken during the year; but the improvement of the towns in respect to cleanliness, conservancy, and drainage has been carried on. The system of placing the conservancy arrangements in large towns under the control and inspection of the police, which was first adopted in Nagpur, has been extended to many towns in other districts, more especially in the Nerbudda and Jubbulpore Divisions, and the system is found to work very well." The Nagpur conservancy is very favourably reported on, and latrines of similar construction and managed in the same way have been erected in many other places. The water-supply is also being improved so far as funds will admit. The history of cholera in the town of Nagpur seems to show that decided benefit has attended the introduction of water from the Ambaghari reservoir. In 1866, during the months of July, August, and September, there were in this town 635 cases of cholera, of which 383 were fatal. In 1869, again, at the same season, there were 640 cases and 343 deaths. The new water-supply was let in on the 23rd July 1872, and in that year there were only 142 cases and 20 deaths. It is to be remarked, however, that in this year cholera was not prevalent in the district as it had been in 1869. But in 1875 the disease was severe in the district, and yet the cases were little over 60, and the deaths only 32. It is worthy of notice also, that the majority of the cases occurred in parts of the town not supplied with Ambaghari water. The people fully appreciate the benefits of the new water, and a scheme of drainage is much desired, but unfortunately it cannot be undertaken for want of money.

The Sanitary Commissioner reports that the civil stations have all been more or less improved during the year, and that in the general cleanliness of the villages much is being done; drainage is more attended to, and village refuse has been removed: although there are no large works of improvement to be recorded, progress seems to have been made, and Dr. Abbott states that he has no hesitation in saying that, from a sanitary point of view, Berar, as it is now, is incomparable with the Berar of five or six years since. Instructions have been issued empowering district officers to take up land for the extension of villages, which will materially aid in the disposal of refuse and also in stalling cattle outside.

The information given regarding sanitary progress in Oude is very meagre. It appears that throughout the province Rs. 90,285 were expended for sanitary purposes, of which Rs. 27,619 were devoted to original works, and the rest to repairs and general sanitary services; of the expenditure on new works, nearly the whole amount was spent by the Lucknow Municipality on new drains.

British
Burma.

In the report of British Burma it is noted that the town of Rangoon has been lighted with kerosine lamps; that the drainage is being improved; tanks have been deepened; the pumps put in good order; and the wells improved. At Moulmein are mentioned the cleaning of drains, the pulling down and the rebuilding of old and unsafe dwellings. At Akyab a considerable extent of drainage has been perfected in the heart of the town. At Bassein roads are being constructed. When wheeled vehicles can traverse the town in every direction, the removal of all refuse will be greatly facilitated. The Sanitary Commissioner expects that in future there will be much to record regarding sanitary improvements in municipal towns.

SECTION VII.

GENERAL REMARKS.

Researches
by Drs.
Lewis and
Cunningham:
Leprosy.

Drs. Lewis and Cunningham, as Special Assistants, have contributed two valuable papers to this Report,—the one on Leprosy in India, and the other on the Oriental sore. The paper on leprosy is in part preliminary, and in part embodies the result of their personal inquiries made in the district of Kumaon, where the disease is more than ordinarily prevalent. Their investigations support the belief that leprosy is not of a contagious nature, and that it is not spread by contagion. Hereditary influence seems to play a considerable part in its history; but it is extremely difficult, especially in this country, where people often live in the same place and till the same ground under much the same circumstances for many generations, to distinguish how far results are to be ascribed to hereditary influence, and how far to conditions of locality and mode of life. Several interesting reports on leprosy have been received from the local Sanitary Commissioners as the result of the general inquiry ordered by the Government of India, but as they are still incomplete, any attempt to summarise the facts they contain may be deferred for the present. So far as their researches have yet gone, Drs. Lewis and Cunningham have failed to discover any microscopic appearance diagnostic of leprosy, or to find evidence which would lead to the supposition that the disease is due to a special germ; but the microscopic part of the inquiry will be further prosecuted in Calcutta, where the Amherst Street Leper Hospital affords excellent opportunities for the purpose.

Delhi sore.

In the Delhi boil, or Oriental sore, after the most careful and complete search, there is no evidence of any specific germ. The opinions advanced some years ago, that these sores are due to parasites which are introduced into the system by means of water, and that they may be transferred man from man, find no support in the facts. The sores are due entirely to changes and developments in the tissues intrinsic to the organism affected. To all appearance the water is concerned in the production of these changes, and more particularly the salts to which it owes its extreme hardness. How they act in this way remains to be explained. The history of the Delhi sore is another illustration of the advantages of good pure water. The other sanitary improvements which have lately been made in the station, and especially in that part of it which is occupied by European troops, may be credited with some portion of the satisfactory results. In former years hundreds of men in a European regiment were affected, and some of them disfigured for life; now the disease is almost unknown.

Cholera.

Although Drs. Lewis and Cunningham have no paper on cholera in this Report, they have not lost sight of this most important part of their work. They have had continued opportunities of repeating former conclusions, and of extending their investigation into new channels. The results of their labours will appear when they have made further progress.

Plague in
Mesopotamia.

The prevalence of plague in Mesopotamia, and the possibility of its introduction into India, continued to engage attention during the year. No evidence has been adduced that the disease in question is contagious, or, even if it were, that any safety would be conferred on India by quarantine restrictions. Owing, however, to objections taken by the Egyptian authorities, and in order to prevent more serious detention in the Red Sea, it was considered expedient for the time to agree to a 15 days' quarantine at the ports of Kurrachee, Bombay, and Aden for all arrivals from the Persian Gulf, and rules to that

effect were accordingly promulgated. Fortunately, they were not passed till near the close of the plague season, and they could have been but partially acted on. Information on this and on other matters connected with the plague has been called for, in order to determine what steps should be taken in the event of the plague re-appearing in Mesopotamia, as is to be feared, in the coming spring.

ABSTRACT OF REPORT OF THE SANITARY COMMISSIONER FOR MADRAS FOR 1875.

(Surgeon-Major H. King.)

SECTION I.

EUROPEAN TROOPS.

Sickness and
mortality
among
European
troops.

The diseases which caused the greatest number of admissions were venereal, simple continued fever, intermittent fever, hepatic affections, and dysentery.

Deaths in the British Army proper numbered 163 (14·80 per 1,000 of strength). Of these, 150 occurred in stations, and 13 on march. Amongst the Veterans 10 deaths occurred; in Garrisons 4. The total number of deaths of European soldiers of all classes was, therefore, 177.

The principal causes of death amongst British soldiers, in stations and marching, were hepatitis (29), dysentery (16), drowning (14), aneurisms (14), phthisis (13), enteric fever (7.) Hepatic abscess caused 6 deaths, secondary syphilis 5, cholera 4, insolation 4, alcoholic poisoning 4, delirium tremens 3, remittent fever 2.

Of 150 deaths of British soldiers at stations, 51 (34 per cent.) were due to dysentery, hepatitis and hepatic abscess.

Venereal
diseases.

There were 2,152 admissions of British soldiers proper for venereal diseases—72·95 per 1,000 of strength for primary, and 39·22 for secondary syphilis; 88·31 for gonorrhœa. In 1875, as in previous years, Bellary suffered most severely of the larger stations from this cause, its admissions amounting to 310·15 per 1,000 of strength.

Fever.

Simple continued fever caused 120·36 per 1,000 admissions, in stations, of British troops. The highest sick-rates due to this cause were at Bellary (338·85) and Madras (267·96). Only two deaths are attributed to it.

Twenty-three cases of enteric fever were treated, all of British soldiers; 2·14 per 1,000. The ratio in 1874 was 3·12. Ten cases occurred at Secunderabad, four at Cannanore; two at each of the stations Bangalore, Kamptee, and Thyetmyo; one each at Madras, Port Blair, and Wellington.

Intermittent fever was the cause of 75·74 admissions per 1,000 of strength, but caused no death. It was most prevalent at Kamptee (407·37).

Hepatic
diseases.

Hepatic affections produced 70·60 admissions per 1,000 in the whole Army, and 71·46 in British troops proper. Arranging the ten largest stations in the order of frequency of admission for these diseases, the list would stand thus:—

Cannanore	-	-	-	116·01
Tonghoo	-	-	-	108·05
St. Thomas' Mount	-	-	-	92·39
Thyetmyo	-	-	-	79·52
Secunderabad	-	-	-	76·04
Trichinopoly	-	-	-	64·51
Madras	-	-	-	64·07
Bangalore	-	-	-	60·58
Rangoon	-	-	-	55·41
Kamptee	-	-	-	36·85

Dysentery.

A list for dysentery prepared as above would show the following order:—

Tonghoo	-	-	-	211·86
Rangoon	-	-	-	103·09
Secunderabad	-	-	-	88·28
Cannanore	-	-	-	78·43
Bangalore	-	-	-	56·98
St. Thomas' Mount	-	-	-	54·34
Thyetmyo	-	-	-	35·34
Madras	-	-	-	34·95
Trichinopoly	-	-	-	32·25
Kamptee	-	-	-	14·94

Three cases of cholera occurred at Trichinopoly ; four others at Madras, St. Thomas' Mount, Secunderabad, and Tonghoo. Cholera.

Only three cases of small-pox were admitted, two at Port Blair and one at Rangoon. Small-pox.

The other diseases to be briefly noticed, with admissions per 1,000 caused by them, are diarrhoea 54·49, respiratory diseases 38·38, rheumatism 31·30, heart diseases 21·42, phthisis 9·31, delirium tremens 4·19, remittent fever 2·98, insolation 1·30. Other diseases.

The numbers of men invalided in 1875 were very large, viz., 687 for change of climate and 177 for discharge. Invaliding.

Hepatitis was the most important cause of invaliding, 160 men being ordered for change of climate on account of this disease and 6 being discharged. Next comes debility, under which the numbers were 124 and 29. For dysentery the figures were 97 and 5 ; for phthisis 37 and 32 ; for secondary syphilis 50 and 7 ; for rheumatism 27 and 14.

Madras.

The average strength of British troops was 515 ; giving 613 admissions, 35·50 daily sick, and 6 deaths, of which 2 occurred out of hospital. Both sickness and mortality were considerably below the average. Stational statistics.

Simple continued fever caused 138 admissions, venereal diseases 136. There were 33 cases of hepatic diseases, 18 of dysentery, 1 of cholera (besides two of " diarrhoea with collapse and cramps "), and one of enteric fever (in a student from the Engineering College) .

The case of cholera was fatal. One man died of insolation and one of phthisis.

St. Thomas' Mount.

The average strength of Europeans was 368. 473 cases were treated ; daily sick were 25·25, and 9 deaths occurred, 3 out of hospital.

The greatest number of admissions (63) was for venereal diseases, 34 were due to hepatic affections, 29 to simple continued fever, 20 to dysentery, 19 to intermittents, and 18 to rheumatism.

A yearly diminution of venereal disease is observed. Much private prostitution prevails without a doubt. More vigilance on the part of the police, as detectives, would to some extent check this, and the British soldier should be made to assist in tracing out disease.

A sudden outbreak of cholera occurred amongst the European families in September. One woman and four children were attacked, all dying except one child. On the 13th October a non-commissioned officer was admitted for cholera, and died on the following night. The disease was prevalent among the civil population both before and after its attack on the military.

Hepatitis and dysentery caused, each, two deaths. One death, as before mentioned, was due to cholera.

Poonamallee.

The average strength of invalids and effectives together was 196 ; with 476 admissions, 50·11 daily sick, and 16 deaths. The severity of sickness and the rate of mortality were above the average.

There were 87 cases of hepatic diseases treated, 77 of dysentery, 73 of venereal diseases, 42 of continued fever, and 21 of phthisis. Cholera appeared in the town about the 20th October.

Five deaths were due to phthisis, three to secondary syphilis, three to hepatitis, two to dysentery, two to aneurisms.

Latrines for the civil population and a slaughter-house were built ; drainage and water-supply were improved.

Trichinopoly.

The strength was only 279 ; admissions were 309, daily sick 23·61, with 7 deaths. Venereal diseases caused most admissions, 49 ; 33 were due to simple continued fever, 18 to hepatic diseases, 17 to rheumatism, 9 to dysentery, 3 to cholera.

Two deaths were caused by cholera ; two by sun-stroke ; dysentery, diarrhoea, and phthisis each caused one death.

Wellington.

The average strength (chiefly of invalids) was 503; 377 cases were treated; 25·53 were daily sick; and 6 deaths occurred, 1 out of hospital. The year was a favourable one.

Venereal diseases caused the largest number of admissions, 90; 45 were due to simple continued fever, 29 to intermittent, 1 to remittent, and 1 to enteric. Dysentery caused 23, hepatic diseases 21, rheumatism 7, and phthisis 4.

Hepatic abscess caused 2 deaths, aneurisms 3, hepatitis 1.

Bangalore.

The strength of British soldiers proper was 1,667, with the same number of admissions, and 92·67 daily sick. There were 18 deaths, of which 5 occurred out of hospital.

The greatest number of admissions (304) were due to venereal diseases; 137 cases of intermittent, 8 of remittent, and 87 of simple continued fever were treated; 101 of hepatic affections, 95 of dysentery, 71 of rheumatism, 15 of heart diseases, 11 of phthisis, and 7 of delirium tremens. No case of cholera occurred amongst the men. There were 2 cases of enteric fever.

Venereal diseases are stated to have been both less prevalent and less virulent under the operation of the lock hospital rules. In May a serjeant of police and two or three constables were specially detailed for the supervision of the women who consort with European soldiers.

Cholera broke out in the cantonment bazaar and St. John's Hill in the beginning of November, and the epidemic continued until the 27th December; 584 cases were reported, with 360 deaths. 15 cases, with 4 deaths, occurred in Europeans or East Indians. The wife of a man of the 45th Regiment was attacked, but no other case occurred amongst the European troops.

Of 13 deaths in hospital, 5 were caused by hepatitis and 1 by dysentery.

The municipality completed 1,836 feet of box-drains and 11,480 of v-section drains during the year. The drainage of the cavalry and artillery barracks is proceeding. The works necessary for the conversion into dry land of the swampy ground at the tail of the Dumloor tank, a fertile source of malaria, have been sanctioned. The diversion of the sewage of the eastern side of the infantry barracks from the Ulsoor tank into the main sewer has also been sanctioned. The great water-supply scheme is progressing, and several new wells have been dug, and the old ones improved.

Cannanore.

The average strength of the European force was 612. There were 622 admissions, 33·88 daily sick, and 3 deaths. The mortality was very low in 1875.

Hepatic diseases caused most admissions, 78; venereal came next, 69; 65 were due to simple continued fever, 19 to intermittent, 4 to enteric. There were 53 cases of heart diseases, 48 of dysentery, and 11 of atrophy.

Two deaths were due to hepatitis, and the third to aneurism.

Bellary.

The strength of Europeans was 906, with 987 admissions, 48·56 daily sick, and 8 deaths, 3 of which were out of hospital. Both sickness and mortality were below the averages.

Continued fever caused 307 admissions, venereal diseases 281, hepatic 29, dysentery 13, intermittents 15, and rheumatism 12.

102 prostitutes are on the register; but the police arrangements are inefficient both in regard to bringing on the register women who practise clandestine prostitution and in compelling those already registered to attend the periodical inspections at the hospital. The arrangements are therefore incompetent to check venereal disease. The sanitary officer suggests the improvement of police supervision, compelling the women to live in one special quarter, and putting down the practice of solicitation in the roads.

Cholera prevailed amongst the civil population, and a few cases occurred among the Native troops. Railroads and ordinary roads were watched, and cholera cases when discovered were treated in special sheds.

Secunderabad.

The strength of the European portion of the Hyderabad Subsidiary Force, exclusive of "Garrison," was 2,288. There were 2,536 admissions, 115·95 daily sick, and 40 deaths. The year was a favourable one.

There were 498 admissions for venereal diseases, 235 for continued fever (not including 10 for enteric), 202 for dysentery, 174 for hepatic diseases, 70 for rheumatism, 20 for heart diseases, 12 for phthisis, 1 for cholera.

Venereal disease increased very considerably during 1875. In the year before admissions from this cause were 47 per 1,000, with 27 days in hospital per admission; in 1875 the corresponding figures were 182 and 32. The regiment was the same. The increase of this class of diseases is attributed to imperfect carrying out of the lock hospital rules.

Cholera appeared amongst the civil population of Secunderabad on the 24th August. From this date to 31st December there were 206 seizures registered, with 101 deaths. On the 14th September the disease appeared in the lines of the Sappers and Miners; then in those of the 29th, 3rd, and 40th N.I. Among sepoys, families, and followers there were 52 admissions for cholera, with 22 deaths. Of European troops and families only one man was attacked, who recovered.

Of the 40 deaths, 7 were due to dysentery and 10 to hepatitis (besides 3 from hepatic abscess). Enteric fever caused 3 deaths. One death was due to each of the following causes: remittent fever, phthisis, idiopathic tetanus, aortic aneurism, snake-bite, delirium tremens, and fracture of the spine.

Kamptee.

The European soldiers averaged 1,004, besides 12 of the "Garrison." The former gave 1,598 admissions, 62·06 daily sick, and 13 deaths. Both sickness and mortality were below the average.

There were 409 cases of intermittent fever, and 137 of continued. Venereal diseases contributed 262 cases, heart diseases and rheumatism 27 each, phthisis 17.

Eighty prostitutes are registered, of whom 25 per cent. appear to be under treatment throughout the year. The police are reported to have been more vigilant in the detection and apprehension of unregistered women, and venereal disease has proportionately decreased.

A case of cholera was reported from Nagpore on the 1st August, and, in all, 59 cases occurred in the city, with 32 deaths, up to the disappearance of the epidemic. On the 8th August a case occurred in Kamptee, in a pilgrim who had come from Nagpore. In Kamptee 84 cases were reported, with 53 deaths. Amongst the Native troops one man of the 35th Regiment was attacked and recovered.

Rangoon.

The average strength of British troops proper was 776, of "Garrison" 32. The former gave 782 admissions, 40·03 daily sick, and 9 deaths. The year's sickness and mortality compare favourably with the means.

There were 129 admissions for venereal diseases among British troops, 80 for dysentery, 43 for hepatic affections, 41 for intermittent, and 37 for continued fever, 24 for rheumatism, and 17 for delirium tremens.

At the end of the year 17 European and 375 Native prostitutes were on the register, and the average under treatment was 52. The rules are reported to act beneficially. In August and September there was a considerable increase of venereal disease amongst the troops, which was met by ordering weekly instead of fortnightly examinations of the women.

Dysentery, hepatitis, and hepatic abscess caused, each, one death, delirium tremens one.

Thyetmyo.

The strength of Europeans was 679, giving 538 admissions, 19·77 daily sick, and 5 deaths. The mortality was very high.

Of the admissions 91 were due to simple continued fever, 2 to enteric, 67 to venereal diseases, 54 to hepatic, 24 to dysentery.

Enteric and remittent fevers caused, each, one death. One is attributed to alcoholic poisoning, and one to delirium tremens.

Tonghoo.

The average strength was 472. There were 628 admissions, and 30·25 daily sick, with 6 deaths. Sickness was above the mean, but mortality below.

Dysentery caused 100 admissions, hepatic diseases 51, venereal 28, continued fever 25, intermittent 21, remittent 16, phthisis 10, cholera 1. This last case occurred in hospital, and no cause can be assigned for it.

There were 3 fatal cases of hepatitis; dysentery caused 1 death, "alcoholic poison" 1, and drowning 1.

SECTION II.

NATIVE TROOPS.

Sickness and
mortality in
Madras
Native
Army.

Malarial fevers were, as usual, the most important causes of sickness, 6,794 admissions being due to intermittent and 49 to remittent fever. The most malarious stations were Cuttack (where 1605·05 per 1,000 were treated for intermittent fever), Shoaygheen (991·94), Port Blair (949·83), Seroncha (677·85) and Hoshungabad (630·85); besides the Nicobars, where the small detachment of 56 men had 6,660·71 per 1,000 admissions from this cause. Secunderabad, which had been highly malarious in 1874, showed only 313·92 per 1,000 admissions in 1875. Rheumatism caused 1,065 admissions, Moulmein showing the highest proportion; Sumbulpore, Shoaygheen, Thyetmyo, and Cannanore also suffering from this disease. 797 admissions were due to diarrhœa, which was most prevalent at Madras, Tonghoo, Mercara, and Trichinopoly. 711 men were admitted for dysentery, mostly at Tonghoo, Secunderabad, and Madras. 456 cases of venereal disease were treated, 17 of variola, 61 of varicella, 53 of phthisis, 3 of delirium tremens. Cholera caused 93 admissions.

In the Madras Army 370 deaths occurred, 12·03 per 1,000 of mean strength (30,747). Stational returns gave 267 deaths, 10·59 per 1,000 of average strength (25,180). Forty deaths occurred out of hospital.

Of the deaths in hospital (227), 37 were due to cholera, 32 to respiratory diseases, 19 to intermittent and 11 to remittent fevers, 12 each to phthisis, dysentery and diarrhœa, 5 to hepatic, and 5 to venereal diseases, while delirium tremens caused 1 death.

1,212 men were invalided from the whole Army according to the Adjutant-General's returns—39·40 per 1,000.

Stational
statistics.

Madras.

The native portion of this large garrison showed an average strength of 1,927, with 1,275 admissions, 52·22 daily sick, and 22 deaths, of which 3 took place out of hospital. The sickness was about the average; the deaths 1·5 per 1,000 above it.

Intermittent fever caused 279 admissions, dysentery 73, diarrhœa 70, rheumatism 54, venereal 38. Two cases of cholera were treated.

Three deaths were caused by dysentery, 2 (one out of hospital) by cholera, 3 by fevers, 2 by diarrhœa, 2 by cardiac disease.

Palaveram.

The average strength of Native troops was 382; 417 cases were admitted; daily sick were 20·16; 14 deaths occurred, one out of hospital. The year was a favourable one.

The admissions included 51 cases of intermittent, and 1 of enteric fever, 20 of dysentery, 17 of rheumatism, 5 of phthisis, 1 of cholera.

Bronchitis caused 3 deaths, general debility 3; cholera, beri-beri, and leprosy caused, each, 1 death.

The case of cholera is attributed to eating stale fish. It appears, however, to have presented all the symptoms of true cholera.

Vellore.

The strength of the 14th Regiment was 587; 205 cases were admitted; daily sick were 5·58; 8 deaths occurred. The year was a very healthy one.

The principal diseases were intermittent fever (61), rheumatism (16), and venereal (14). One case of cholera was admitted.

Intermittent fever, cholera, phthisis, pneumonia, and diarrhoea caused, each, 1 death.

There were many cases of cholera amongst the population of the town, and some amongst the regimental followers. Peons were posted at the entrances to the town to prevent the entry of carts coming from infected villages. Sepoys returning from leave were not allowed to enter the lines until after medical inspection.

Vizagapatam.

The average strength of "Garrison" and Regiment combined was 733. There were 491 admissions, 31·44 daily sick, and 5 men died—1 out of hospital. The sickness of the year was average; the mortality very low.

Next to "skin diseases," which caused 102 admissions, the most important affections were continued fever (71), intermittent (56), and rheumatism (35).

Phthisis caused 1 death, and general dropsy 1. One death is attributed to dyspepsia.

Vizianagram.

The strength of the 12th Regiment was 645, giving 283 admissions, 16·96 daily sick, and 10 deaths, of which 2 occurred out of hospital. The mortality of the year was high.

Intermittent fever caused 64 admissions, skin diseases 49, rheumatism 9. There were two cases of remittent fever.

Two deaths were caused by malarious fevers: 2 out of hospital, by general debility. One death was due to bronchitis.

Berhampore.

The strength of the Head Quarters and Right Wing, 2nd N.I. was 362. Admissions were 229; daily sick 9·27; deaths 8, in hospital. The ratios of sickness were about the average, but the mortality was very high.

Intermittent fever caused most admissions, 54. There were 15 cases of rheumatism and 12 of cholera.

Of the 8 deaths 6 were due to cholera; the other 2 to beri-beri and bronchitis.

Cholera, not traced to importation, appeared in the lines on the 6th September. The epidemic lasted to the 30th, during which period 52 cases occurred and 17 were fatal. The disease re-appeared in the civil population on the 20th November, and continued up to the 25th December. At this time 67 cases were treated in the civil population, with 14 deaths; and 4 in the lines, with 2 deaths. An attempt was made to exclude Pooree pilgrims from the cantonment, but it was unsuccessful.

Cuttack.

The average strength of the 12th Regiment during the year was 633. There were 1,298 admissions and 57·71 daily sick. Only one death occurred. The sickness was three or four times greater than the average, but the death-rate was trifling.

Intermittent fever caused 1,016 admissions, rheumatism 30, dysentery 24.

The death was due to intermittent fever.

There were no cases of cholera amongst the troops. Three sporadic cases are reported amongst the civil population in October. The usual measures were taken to exclude from the cantonment pilgrims from Pooree.

Sumbulpore.

The strength of the Left Wing 2nd N.I. was 311; giving 317 admissions, and 8·70 daily sick, while 3 deaths occurred in hospital and 4 outside. The station is unhealthy and the mortality very high, but, on the whole, the year was a favourable one.

Of the admissions 173 were due to intermittent fever, 33 to rheumatism, 4 to cholera.

Cholera caused 2 deaths, out of hospital; intermittent fever 1, pneumonia 1, bronchitis 1.

Communication with localities infested with cholera was forbidden, and separation of residents within military limits from those without was maintained for nearly three months. The result was satisfactory. In the town closely adjoining the station 312 seizures with 111 deaths were recorded; but no epidemic broke out in the Wing. The deaths from cholera noticed above occurred out of cantonment.

Bangalore.

The average strength was 1,948. There were 1,127 admissions, 43.11 daily sick, and 10 deaths, all in hospital. The year was a healthy one.

The principal diseases were intermittent fever (208), continued fever (173), rheumatism (58), venereal diseases (51), diarrhoea (39). Fourteen cases of cholera were admitted.

Four of the cholera cases were fatal. Of the other deaths, 2 are attributed to simple continued fever, and one each to anæmia, tetanus, asthma, and fracture.

French Rocks.

The average strength of the Head-Quarters of the 30th N.I., which occupied the station during the year, was 602, giving 284 admissions, 7.69 daily sick, and 6 deaths, of which 1 occurred out of hospital. The sickness was greatly, and the mortality appreciably, below the means.

Intermittent fever and rheumatism were the most important diseases, the former causing 108 admissions, the latter 14.

Intermittent fever, apoplexy, bronchitis, colic, and general debility caused one death each. The case out of hospital was one of suicide.

No cholera in the cantonment, though present in Mysore 14 miles distant and in a village 7 miles away.

Mysore.

The average strength of the detachment from French Rocks, relieved monthly, was 63. The cases admitted numbered 29; daily sick were 0.65. Intermittent fever caused 12 admissions. One death occurred, from arsenical poisoning.

Cholera appeared in the town on 27th July, and continued to the 20th October, destroying about 550 persons, but none of the sepoys was attacked.

Mercara.

The strength of the 28th N.I. for the year was 609; admissions were 661, average daily sick 34.53; deaths 6, 1 out of hospital. The station continued unhealthy, though the mortality in 1875 was considerably below the mean.

Of the admissions, 284 were due to intermittent fever, 78 to diarrhoea, 34 to dysentery, and 15 to rheumatism. There was no cholera.

No case of fever was fatal. Dysentery, diarrhoea, bronchitis, and pneumonia caused each 1 death.

Walls are being built round the wells of drinking water. The medical officer says "it is hoped that the swamp below the lines will be drained this year."

Bellary.

The average strength was 1,355; 889 cases were admitted; daily sick were 44.24; and 12 deaths occurred, all in hospital. Comparison with the means shows sickness to have been much above the average, mortality very slightly.

296 cases of intermittent and 3 of remittent fever were admitted. Rheumatism caused 83 admissions, venereal 26, dysentery and diarrhoea 24 each, and cholera 2.

Dysentery caused 2 deaths, cholera 1; 1 death is attributed to each of the following diseases: intermittent fever, remittent, chronic rheumatism, pneumonia, diarrhoea, hepatitis, stricture of urethra, urinary fistula, and general debility.

Trichinopoly.

The strength of the Native force was 2,026 : admissions were 1,390, and daily sick 46·72. There were 33 deaths, 5 out of hospital. Both the sickness and mortality of the year were above the means.

There were 515 admissions for intermittent, and 3 for remittent fever, 74 for diarrhœa, 48 for dysentery, 64 for rheumatism, 24 for venereal diseases, and 34 for cholera.

Of the deaths 15 were due to cholera ; 3 cases of intermittent, and 2 of remittent fever were fatal ; 2 deaths arose from pneumonia ; and 2 from general debility.

Cholera was most severe and fatal in the 32nd Regiment, whose lines are notoriously unhealthy.

Quilon.

The strength of the 26th N.I. was 525 ; 258 cases were admitted ; daily sick were 13·82 ; 3 deaths occurred in hospital, and 4 outside. The mortality was nearly double the average.

Only 12 cases of intermittent fever were admitted ; 17 of rheumatism.

Phthisis, dropsy, and hepatitis caused, each, 1 death.

Palamcottah.

The strength of the 24th Regiment was 566 ; admissions were 292 ; daily sick 14·31 ; only 3 deaths occurred. The sickness in 1875 was about the average, and the mortality appreciably lower than the means.

Of the admissions, 46 were due to intermittent, and 4 to remittent fever, 38 to rheumatism, 13 to venereal, 10 to dysentery, 4 to phthisis, and 2 to cholera.

One death was due to cholera, one to congestive apoplexy, and one to phthisis.

Cholera appeared in Palamcottah in August, and disappeared in October. In the lines the first case occurred on the 5th September, the second on the 9th, the third (and last) on the 11th November. No distinct evidence of importation could be found. " When it was ascertained that the disease was in the vicinity, the troops were ordered " to remain in their lines, and guards posted and check roll-calls established to prevent " them infringing the order. The sanitary state of the cantonment, and particularly " the lines, was at the same time attended to, and every possible local cause of disease " removed."

Cannanore.

The average strength of the two regiments was 1,231, yielding 687 admissions and 27·13 daily sick. There were 9 deaths, of which 2 occurred out of hospital. The sickness was considerably above the average, without increase of mortality.

Rheumatism was the principal disease, causing 82 admissions ; 80 were due to intermittent, and 2 to remittent fevers ; 28 to venereal ; 18 to dysentery. No cholera in hospital.

A case of cholera proved fatal out of hospital. Two deaths were due to malarious fevers, one was caused by diarrhœa, and one by delirium tremens.

Mangalore.

In the 34th Regiment, with an average strength of 603, there were 269 admissions, 12·30 daily sick, and no deaths. A comparison with the means of nine years shows the sickness to have been about equal to the average.

Admissions for fever were 77, for dysentery 19, for diarrhœa 16, for rheumatism 14. There was no cholera.

Secunderabad.

The strength of natives in this garrison was 3,074 ; 2,491 cases were admitted to hospital ; daily sick were 102·30 ; and 31 died—3 out of hospital.

965 admissions were due to intermittent, and 14 to remittent fevers ; 129 to rheumatism, 84 to dysentery, 55 to venereal, and 19 to cholera.

Of the deaths 8 were caused by cholera, 5 by intermittent, and 2 by remittent fever; beri-beri caused 1, phthisis 4, respiratory diseases 4, and diarrhoea 1.

In the end of December cholera broke out amongst the Sappers. One sepoy and nine children were attacked; two children died. About the same time a man of the 3rd Regiment P.L.I., under treatment for ague, was seized with cholera, and 2 other sepoys and 1 woman were attacked. Subsequently 4 sepoys were attacked, of whom 2 died; and also a woman and child, the former making a good recovery. In the 40th N.I. cholera broke out in the ninth week of the fourth quarter. Three sepoys and 9 followers were seized; 3 of the latter died. In the following week 6 cases were admitted, 3 died, and 8 were discharged cured. In the eleventh week 3 sepoys died and 2 followers; and in the twelfth there was 1 death.

Kamptee.

The strength of the native part of the garrison was 1,173; there were 493 admissions, 22·71 daily sick, and 10 deaths, of which 1 occurred out of hospital. The year was a healthy one.

Intermittent fever produced most admissions, 206; 22 were due to rheumatism, 19 to dysentery, 10 to venereal disease. One case of cholera was treated.

Two deaths were due to beri-beri, phthisis, and valvular heart disease, each; 1 to dysentery, 1 to diarrhoea.

Seetabuldee.

The average strength of the 8th N.I. was 461, which gave 586 admissions, 16·94 daily sick, and 2 deaths. Sickness and mortality were below the mean.

Intermittent fever gave 212 admissions, remittent 3, rheumatism 28, venereal 18, and dysentery 12. There was no cholera.

Remittent fever and bronchitis were the causes of death.

Hoshungabad.

The average strength of the Head-Quarters and Left Wing, 22nd N.I., was 363; admissions were 411; daily sick 11·18. Three deaths occurred, one out of hospital. Sickness was above, but mortality below, the means.

229 cases of intermittent, and 6 of remittent fever were admitted; 13 of venereal disease; 11 of rheumatism. One case of cholera occurred.

One death is attributed to maltreated syphilis, and one to excessive use of opium. One man died, out of hospital, of cardiac disease.

Cholera was very prevalent on the Bhopal side of the Nerbudda; but, with the exception of a few sporadic cases among the civil population of town and cantonment, and one mild case in the regiment, which recovered, no epidemic, properly speaking, appeared. The civil authorities used every means to lessen intercourse between the civil population and those on the Bhopal side of the river.

Raipore.

The average strength of the 31st Regiment was 652. There were 561 admissions, and 14·15 daily sick. Four men died, one out of hospital. The health of the regiment was good. The greatest number of admissions (325) were due to intermittent fever; rheumatism caused 29; dysentery 7.

Intermittent fever, remittent, apoplexy, and pneumonia were the causes of death.

Cholera prevailed in the district from March to September and reached the town of Raipore in August. None occurred amongst the troops; and in cantonment only two cases, an officer's servants, one of whom recovered and the other died. No quarantine was attempted.

Rangoon.

The strength of the native portion of the garrison was 1,737. There were 908 admissions, 34·12 daily sick, and 17 deaths, of which 3 occurred out of hospital. Sickness and mortality were below the average.

There were only 140 cases of intermittent fever; 55 admissions were due to dysentery; 56 to diarrhoea; 43 to rheumatism. No cholera.

Two deaths are attributed to bronchitis, and one to pneumonia. "General debility" is reported to have caused 3 deaths.

Thyetmyo.

The average strength of natives at this garrison was 611, giving 471 admissions, 26·61 daily sick, and 10 deaths. The year was unhealthy, both sickness and mortality being nearly double the means.

Intermittent fever gave 139 admissions, rheumatism 45, dysentery 18, and diarrhoea 20. Sixteen admissions for dropsy—more than three times as many as occurred at any other station—seem to indicate insufficiency of food.

Three of the deaths are assigned to "general dropsy," and one to anæmia. Intermittent fever, bronchitis, hepatitis, and splenitis caused each one death.

Tonghoo.

The strength of the force detailed above averaged 653. Admissions were 682, daily sick 28·34. In this small force no less than 18 deaths occurred (7 out of hospital), nearly doubling the mortality, while the sickness did not rise above the average.

Diarrhoea caused 184 admissions; dysentery 95; intermittent fever 131; and rheumatism 19.

Six deaths were due to beri-beri, 2 to dysentery, 1 to diarrhoea, and 1 to phthisis.

Moulmein.

The strength of the garrison for the year was 295; giving 476 admissions, 14·36 daily sick, and 4 deaths. The sickness and mortality were about average.

115 cases of intermittent and 20 of continued (not enteric) fever were treated, 64 of rheumatism, 64 of dysentery. There was no cholera.

One death was due to beri-beri, two are attributed to "general debility."

SECTION III.

JAILS.

The average strength of prisoners, as given in the monthly medical returns, was 9,849. Admissions were $7,412 = 752 \cdot 56$ per 1,000; daily sick $289 \cdot 60 = 29 \cdot 40$ per 1,000; 381 deaths appear in the medical returns $= 38 \cdot 68$ per 1,000 of average strength. The Inspector-General's returns give 386 deaths, which would make the ratio $39 \cdot 19$ per 1,000. Sickness and mortality in jails.

Of 7,412 admissions, 1,350 were due to intermittent, and 651 to continued (not enteric) fevers. Remittent caused 20, diarrhoea 700, dysentery 662, dracunculus 294, venereal 251, rheumatism 195, cholera 95.

Cholera appeared in the central jails of Coimbatore (9) and Trichinopoly (5), in the Madras Penitentiary (2), and in the district jails of Madura (28), Cuddapah (24), Nellore (1), Coimbatore (2), Tanjore (14), Chittoor (1), Trichinopoly (3), Tranquebar (5), Kurnool (1). The number of cases was highest in July (21), August (22), and December (25).

Of the deaths, 76 were due to diarrhoea, 64 to dysentery, 35 to dropsies, 9 to atrophy and anæmia, 7 to phthisis. Neither scurvy nor dracunculus caused any. Cholera destroyed $40 = 4 \cdot 1$ per 1,000 of strength; 13 of the fatal cases occurring in August, and 13 in December.

In the subjoined table the sickness and mortality of 1875 are shown in comparison with the means of six years previous to the introduction of adequate dietaries and other Comparison with former years.

improvements, with the rates for 1867 and 1868 (the period of transition), and with the means of six years immediately preceding 1875 :—

Periods.	Ratio per 1,000.	
	Admissions.	Deaths.
Means of 1861-66	1371·1	107·0
1867	1012·4	53·9
1868	869·1	33·8
Means of 1869-74	719·2	27·2
1875	752·6	38·7

In the following table the mortality due to cholera and four jail-diseases in 1875 is compared with that of previous periods :—

Periods.	Deaths per 1,000.				
	Cholera.	Dysentery.	Diarrhœa.	Dropsies.	Anæmia.
Means of 1861-66	23·6	12·9	22·5	—	—
1867	0·8	8·8	10·5	5·3	12·1
1868	0·2	5·5	7·3	1·9	5·7
Means of 1869-74	1·3	4·7	5·0	1·9	1·1
1875	4·1	6·4	7·7	3·5	0·9

Comparison
of central
and district
jails.

The following table shows the superiority of central over district jails in point of healthiness during 1875 :—

Jails.	Strength.	Ratio per 1,000.		
		Admissions.	Daily Sick.	Deaths.
Central	5,009	541·22	24·15	35·13
District	4,813	972·57	34·50	42·59

Central Jails.

The following table gives the mortality of the six central jails in 1875, and the means for the eight years 1867-74 :—

Central Jails.	Ratio per 1,000.	
	Mean of 8 years 1867-74.	1875.
Cannanore	45·71	30·56
Coimbatore	24·94	38·18
Rajahmundry	12·71	24·21
Salem	16·93	24·76
Trichinopoly	33·05	54·79
Vellore	14·69	32·29

Cannanore.

The average strength of prisoners was 687. Admissions were 296, chiefly for intermittent fever (69), dysentery (52), rheumatism (28), scurvy (10), and atrophy (10).

No cholera. Deaths were 21, of which 4 were attributed to rheumatism, 1 each to atrophy, dysentery, and diarrhoea. An extra allowance of mutton was recommended and sanctioned during the monsoon and afterwards.

Coimbatore.

Average strength 969. Admissions 331, of which diarrhoea caused 52, dysentery 41, intermittent fever 39, dracunculus 34, dropsies 24, and cholera 9. The latter disease appeared twice in the jail. One fatal case occurred in August. From 20th to 29th November 7 cases were admitted, of which 2 were fatal. The first of these occurred in a prisoner who had been over five years in jail; no importation could be traced. Three deaths were due to cholera, 11 to dropsies, 5 to diarrhoea, and 4 to dysentery.

Rajahmundry.

Average strength 950, with a very high number of admissions, 813. Of these, 119 are attributed to continued, 56 to intermittent, and 2 to remittent fevers, 101 to dysentery, 69 to diarrhoea, 32 to rheumatism, 28 to dropsies, and 20 to atrophy. There was no cholera. Though the sick-rate was highest in this among central jails, the death-rate was lowest. Twenty-three deaths occurred: 1 by remittent fever, 7 by dropsies, 6 by dysentery, and 1 by diarrhoea.

Salem.

Average strength 525, with 224 admissions, chiefly for intermittent fever (51), dracunculus (23), venereal diseases (12), and dysentery (11). The mortality was almost as low as at Rajahmundry. Of 13 deaths, 3 were due to respiratory diseases; 1 each to phthisis, dropsy, dysentery, diarrhoea, and venereal.

Trichinopoly.

Strength 949, giving 423 admissions, among the causes of which were intermittent fever (96), diarrhoea (79), dysentery (29), atrophy (14), dropsies (7). Cholera contributed 5 cases, none of which were fatal. Two of the cases occurred on the 16th and 17th June, two in July, and the last on the 4th September. The death-rate was very much higher than that of any other central jail. Of 52 deaths, 27 were caused by diarrhoea, 3 by dysentery, 5 by atrophy, 3 by dropsies, 4 by intermittent fever. The jail accommodation was increased during the year by the addition of two wards.

Vellore.

Average strength 929; admissions 624, chiefly for continued fever (186), intermittent (9), diarrhoea (82), dysentery (35), and rheumatism (13). Deaths 30; 11 caused by diarrhoea, 7 by dysentery, 1 by intermittent fever, and 1 by atrophy. Accommodation is being increased and drainage improved.

Ootacamund.

The European Prison at Ootacamund may be conveniently classed as a central jail. Its average strength was 27, giving 20 admissions, but no death. There were 3 cases of diarrhoea, 2 of continued, and 1 of remittent fever. The want of a hospital, which was much felt, has been supplied by the conversion of the office, which is capable of accommodating three patients.

District Jails.

In the following table the rates of mortality in district jails during 1875 will be found. More detailed remarks upon each will be made afterwards, the arrangement of stations being alphabetical.

District Jails.	Death-rate per 1,000 of Strength.
Bellary	19·07
Berhampore	43·24
Calicut	25·77
Chingleput	12·73
Chittoor	36·58
Coimbatore	117·94
Cuddalore	16·30
Cuddapah	97·67
Guindy	15·38
Guntoor	9·90
Kurnool	25·86
Madras (Penitentiary)	6·71
Do. (Her Majesty's Jail)	—
Madura	69·14
Mangalore	83·33
Masulipatam	27·77
Nellore	10·20
Ootacamund (Native)	19·10
Palamcottah	51·79
Rajahmundry	40·40
Russelcondah	17·85
Tanjore	136·09
Tellicherry	23·52
Tranquebar	50·72
Trichinopoly	47·61
Vizagapatam	57·57

Bellary.

Of 252 admissions, 39 were due to dracunculus, 27 to venereal diseases, 12 to continued and 9 to intermittent fevers, 8 to diarrhoea, 5 to dysentery. Of 7 deaths, 2 were from diarrhoea, 1 from intermittent fever. Eleven old wards were demolished during the year, and two new ones occupied.

Berhampore.

129 admissions: 45 for intermittent fever, 26 for diarrhoea, 14 for dysentery, and 7 for rheumatism. Eight died; 2 of intermittent fever; 1 each of dropsy, diarrhoea, and dysentery. Night-latrines communicating with the wards have been constructed.

Calicut.

111 admissions; of which dysentery contributed 23, continued fever 22, intermittent 7, remittent 2, diarrhoea 15; no cholera. Of 5 deaths, dysentery caused 2, and diarrhoea 1. Some sleeping pials were asphalted during the year, and a new well was sunk.

Chingleput.

Of 291 admissions, 137 were due to intermittent fever, 20 to diarrhoea, 9 to venereal, 8 to dysentery, and 4 to atrophy. Only 2 deaths occurred, 1 from diarrhoea, so that an exceedingly high sick-rate is combined with very low mortality. The large number of admissions for ague is attributed partly to prolonged drought and its effect upon the tank and fort-ditch, and partly to the railway works having converted the inner moat into a chain of stagnant pools. Cases began to increase in July.

Chittoor.

There were 327 admissions, giving a very high sick-rate; but 127 were cases of skin disease. 50 cases of intermittent fever, and 24 of remittent were treated, 18 of

dysentery, 13 of diarrhoea, 12 of venereal, 8 of rheumatism. Two deaths were due to dysentery, and one to diarrhoea. There was one fatal case of cholera. Death occurred within 24 hours of admission to the jail; and the disease did not spread.

Coimbatore.

273 admissions, chiefly for dysentery (28), dracunculus (67), diarrhoea (12), and varicella (21). There were 2 cases of cholera, of which 1 was fatal. The mortality was very high, 23 deaths having occurred; 4 from diarrhoea, 3 from dysentery, 2 from dropsies.

Cuddalore.

341 admissions: 48 for continued, 8 for intermittent, and 2 for remittent fevers, 41 for diarrhoea, 17 for dysentery, 15 for rheumatism. Respiratory diseases (39) contributed a large proportion of admissions. Only 6 deaths: 2 from diarrhoea, and 1 from dropsy. The superintendent remarks that extramural employment is necessary to the health of prisoners confined in Cuddalore Jail. In December, when many of the police force were withdrawn from the district, extramural labour became impossible for want of guards; and the result was a considerable number of serious cases of anasarca, anæmia, and jail diarrhoea.

Cuddapah.

The sickness in this jail was very great, and the mortality high. There were 550 admissions: 352 for intermittent fever, 36 for dysentery, 17 for diarrhoea, 23 for dracunculus. There were 24 cases of cholera, with 12 deaths. The first case occurred on the 17th July, the last on the 22d August. The disease had prevailed in the town since the beginning of July, and lasted up to the middle of September. On the 14th August the prisoners were removed to a camp three miles distant, and brought back on the 14th September.

Guindy.

In this small jail there were but 50 admissions; 20 for intermittent fever, 4 for dysentery; the only death being due to the latter disease.

Guntoor.

63 admissions; 9 of which were for guinea-worm, and 8 for intermittent fever. Only one death, attributed to "general debility."

Kurnool.

Admissions 129: 18 for intermittent fever, 24 for diarrhoea, 20 for dracunculus, 6 for dysentery. One prisoner was attacked by cholera, and recovered. Only three deaths one of which was caused by dysentery, and one by dropsy.

Madras Penitentiary.

377 admissions: 35 for continued, 31 for intermittent fevers, 52 for diarrhoea, 29 for venereal. Two cases of cholera were admitted, and recovered. Deaths three only; two from phthisis.

Madras Civil Jail.

In this Debtors' Jail the sick-rate was exceedingly high, though no deaths occurred. Rheumatism caused most admissions (7); dysentery and diarrhoea 1 each. The prisoners feed and clothe themselves.

Madura.

233 admissions; chiefly for diarrhoea (48), cholera (28), dysentery (22), intermittent fever (26), and varicella (15). There were 8 cases of venereal and 9 of dracun-

culus. 28 cases of cholera were admitted, and 15 were fatal. The first case occurred on the 11th September, and none followed until the 25th. The last attack was on the 19th December. Four deaths were caused by diarrhoea, and one by dysentery.

Mangalore.

Intermittent fever caused 25, remittent 8, and dysentery 21, of the 123 admissions. The mortality was very high, and 6 of the 10 deaths were due to remittent fever. One died of atrophy, 1 of dysentery, 1 of diarrhoea.

Masulipatam.

Only 45 admissions in this small jail, of which intermittent fever caused 14, and dysentery 5. One death, from atrophy.

Nellore.

162 admissions: 23 for continued, and 23 for intermittent fevers, 10 for dysentery, 9 for diarrhoea, 16 for venereal diseases, and 20 for guinea-worm. One fatal case of cholera. The man attacked had been over five months in jail. He died in 7½ hours. As soon as the symptoms of cholera appeared he was removed to a shed in the jail-garden; and a quarantine shed, in which new prisoners were to be kept for 15 days, was erected outside the jail and used until October. One other death occurred, from dropsy.

Ootacamund.

Of 96 admissions, 26 were caused by continued, and 6 by intermittent fevers. There were 14 cases of diarrhoea, 14 of dysentery, and 4 of rheumatism. Three deaths occurred, all from dysentery. Water-supply improved during the year.

Palamcottah.

282 admissions; of which 70 were for dysentery, 49 for intermittent fever, 22 for diarrhoea, 15 for rheumatism, 15 for venereal diseases, and 10 for dracunculus. Of 13 deaths, 7 were due to dysentery, 3 to dropsies, 2 to fevers, and 1 to diarrhoea. Cholera prevailed outside, but none of the prisoners were attacked.

Rajahmundry.

Of 111 admissions, venereal diseases caused 14, intermittent fever 11, dysentery 10. Four deaths occurred, 1 from dysentery, 1 from dropsy, 1 from "general debility."

Russelcondah.

163 admissions, chiefly for intermittent fever (37), dysentery (10), and diarrhoea (6). Only 2 deaths, from dysentery and dropsy.

Tanjore.

108 admissions; of which fevers (continued 6, intermittent 16, and remittent 3) caused 25, dysentery 20, diarrhoea 15, and cholera 14. Of these last only 3 were fatal. 10 deaths were due to dysentery, 3 to diarrhoea, 2 to dropsies.

Tellicherry.

48 admissions: 9 for intermittent fever, 8 for dysentery, 7 for diarrhoea 5 for rheumatism. Only 2 deaths, from heart disease and diarrhoea.

Tranquebar.

Of 68 admissions, 13 were caused by intermittent fever, 12 by dysentery, and 5 by cholera. Cholera lasted from 26th to 28th December. The first two cases occurred in new arrivals from Negapatam and Nannilam, where cholera was epidemic at the time. Sheds were prepared for the camping out of all the prisoners, but there was no occasion to use them, the disease having been restricted to the five cases mentioned. Three of the five were fatal. There were four other deaths, from small-pox, continued fever, dysentery, and diarrhoea.

Trichinipoly.

157 admissions: 78 for intermittent fever, 30 for diarrhoea, 3 for cholera. One each of these last occurred in June, July, and August; and one was fatal. There were 6 other deaths: 5 from diarrhoea, and 1 from intermittent fever.

Vizagapatam.

Of 150 admissions, 26 were caused by intermittent and 18 by continued fevers. There were 14 cases of dysentery, 7 of diarrhoea, 10 of venereal diseases. Of 19 deaths, 5 were from dysentery, 4 from intermittent fever. The jail is a temporary one, in camp.

SECTION IV.**GENERAL POPULATION.**

In this Presidency 638,771 births were registered during 1875, being 21·09 per 1,000 of the population of 1871. Of these, 327,754 were male, and 311,017 female births, or in the proportion of 100 to 94·89. Vital statistics.

There were registered 641,260 deaths, namely, 335,388 of males and 305,872 of females; the proportion being 100 to 91·20. The death-rate would be 21·1 per 1,000, or 4 per 1,000 higher than that of 1874. The extensive prevalence of cholera accounts in some degree for the higher mortality of 1875; let us hope that improved registration counts for something also.

The following table shows the numbers dying at different periods of life:—

Ages.	Population.	Deaths.	Death-rate per 1,000.
Under 6 years - -	6,580,599	201,497	30·6
6 to 12 do. - -	4,812,372	47,341	9·8
12 to 20 do. - -	4,851,742	41,879	8·6
20 to 30 do. - -	5,702,078	67,208	11·7
30 to 40 do. - -	3,778,993	60,163	15·3
40 to 50 do. - -	2,527,838	56,604	22·3
50 to 60 do. - -	1,593,982	58,477	36·6
Above 60 do. - -	983,749	108,091	109·8
Unknown ages - -	449,824	—	—

The subjoined table shows the total mortality, and that due to each of the principal causes of death, for four years past* :—

—	Total Deaths.	Cholera.	Small-pox.	Fevers.	Bowel Complaints.	Other Causes.
1872 - - -	508,182	13,247	39,074	214,148	39,387	202,326
1873 - - -	513,232	840	51,782	222,843	36,392	201,375
1874 - - -	521,329	313	48,343	226,220	37,993	208,460
1875 - - -	641,260	94,546	24,775	252,042	37,484	232,4 3

* For comparison with years previous to 1872, see table in Vol. VIII, p. 101.—Ed.

The registered mortality exceeded 40 per 1,000 in Madura (60·36), Tinnevely (55·07), Tuticorin (57·16), Cuddapah (68·26), Adoni (53·55), Cumbum (73·80), Vellore (52·02), and Coonoor (40·54). All these towns except the last three suffered severely from cholera, and the fever mortality in Vellore and Cumbum was very high.

In the capital, although the year 1875 was not free from epidemic cholera, the death-rate was more favourable than that of the previous year. It was 35·6 per 1,000 of census population; that of 1874 had been 37·1. The average mortality of the 16 years 1859-74 was 31·8; the population of 1871 being taken as the basis of calculation. Mahomedan mortality was, as usual, highest, 42·3 per 1,000. The European rate, 32·1, was lowest.

Cholera.

Cholera carried off 94,657 persons (including Europeans and Eurasians) during the year; the ratio being 147·3 per 1,000 of total deaths, and 3·1 per 1,000 of census population.

The first registered case of cholera in the capital occurred on the 7th August. Up to the close of the year 935 deaths had taken place. Eight Europeans (2·2 per 1,000) died of it.

The disease first became epidemic in the south-eastern part of the Presidency in April, and spread gradually into every district but two. Another wave from the north had reached the northern district by the close of the year; and at that time the Vizagapatam and greater part of the Kistna districts remained unaffected by either epidemic.

In January two deaths in the Tanjore district were reported, one from the Nannilam taluq on the 12th, and one from the Combaconum taluq on the 15th. From the 16th January no death is reported until the 9th February, when one occurred in the Negapatam taluq, followed by two others on the 13th and 15th. There were seven deaths in February, the last occurring in the Nannilam taluq on the 28th. From this date until the 22d March no deaths were returned. On the latter day a death occurred in Negapatam taluq, followed by another on the 31st. These were the only cholera deaths reported during March. In April the disease became epidemic, and 65 deaths occurred, of which 46 were in the Negapatam taluq, 17 in Nannilam, and 1 in each of the taluqs of Combaconum and Tanjore. The first death was reported on the 5th. In May the deaths were 1,589; chiefly in the taluqs of Negapatam (783), Nannilam (373), and in Negapatam town (169). In June every taluq and town suffered, and the total deaths were 4,972. In July the mortality reached its maximum, 7,184; and the numbers for the succeeding months of the year were 1,733, 945, 822, 348, and 454.

Tinnevely is not conterminous with Tanjore, and did not receive cholera from the latter district. The disease made its first appearance at a seaport on the 14th April. No case had occurred previously in any part of the district. Up to the end of April 9 deaths had occurred, all in the seaboard taluq of Tenkarai. In May the number rose to 30, still in one taluq. In June the deaths were 59, 44 in Tenkarai taluq, and 15 in another (Ambasamudram), which is separated from it by the Tinnevely taluq, in which no deaths were reported until August. In July the deaths were 227, 215 in Tenkarai taluq, and 12 in Tenkasi, which adjoins Ambasamudram on the north. Henceforward deaths were reported in every taluq and municipal town; and the totals for August and subsequent months were 541, 1,343, 1,150, 1,085, and 2,073. It seems clear that in this district the disease spread from a seaport.

Madura district touches Tinnevely on the south, but cholera did not appear in its southern taluq until after its explosion in eastern taluqs. One death is reported from Melur taluq, between which and the Tanjore district a large zemindary (from which we have no information) intervenes, on the 10th June. In July the disease appeared simultaneously in this taluq and in Madura which lies on its west. On the 11th the first cases occurred in Dindigul taluq north of Madura; and on the 17th in the southern taluq adjacent to Tinnevely. The total deaths in July were 113. In August the disease was everywhere; 412 deaths were reported. The numbers for subsequent months were 915, 2,783, 4,074, and 3,303.

In South Arcot, conterminous with Tanjore on the south, sporadic deaths occurred in January (3), February (6), April (3) and May (3); but the epidemic did not begin until June. All the April cases had been reported from the taluq of Chedambaram, which takes its name from a very filthy municipal town, with a famous temple, a favourite place of pilgrimage. The taluq lies on the seaboard and touches the northern part of the Tanjore district. In May a death occurred in the same taluq, and on the 6th June another. During the latter month 171 deaths in the taluq and 30 in the town were reported. From July onward the disease spread in every part of the district, the

monthly mortality fluctuating. The totals for July to December were 2,342, 2,339, 906, 695, 659, 1,167.

The district of Trichinopoly lies west of South Arcot and Tanjore. An isolated death was reported on the 17th March in a taluq bordering on the former district; but the epidemic began in Trichinopoly town (connected with infected districts by road and rail) on the 18th May; and 9 deaths, all in the town, occurred. In June it spread into the Trichinopoly taluq, in which 133 died, and in the town itself there were 255 deaths. The total of the month was 555. The mortality reached its maximum, 2,854, in July, and thenceforward fell through 2,008, 780, and 458, to 260 in November. In December the deaths were 360.

The first reported death in the Coimbatore district occurred in the Sathiamungalum taluq on the 8th June. Two deaths are reported from the Erode taluq on the 16th, and three from Bhowani on the 28th. The total for the month was 60. The numbers increased (383, 427, 1,239, 2,741, and 4,680) up to November, and fell to 3,402 in December.

In August the disease crept up to the Nilgherries, one death being reported from the district and two from Coonoor in that month. Another death occurred in the district in October, and 7 (besides one in Ootacamund) in December.

The first death in Cuddapah district occurred on the 3rd June in the Cuddapah taluq, and 27 deaths were reported in the month. In July the epidemic spread through all the eleven taluqs but two, and the town of Cuddapah suffered severely: the total was 773. In August the mortality reached its maximum, 1,513; falling to 1,394 in September, and thence declining through 492 and 245 to 213 in December. The taluq of Madanapully suffered very little during 1875, reporting only 3 deaths in August and 24 in October.

The Salem district lies between South Arcot and Trichinopoly on the east, and Coimbatore and Mysore on the west. Cholera appeared first in the end of June, the first death being reported on the 1st July, in the Namacul taluq on the confines of the Trichinopoly district. Trichingode was next attacked, bordering both on Trichinopoly and Namacul, and then Ahtoor west of Namacul. The deaths in July were 134, in August 520, in September 1,553, the highest total of the year. In the following months the deaths were 1,527, 1,511, 1,360.

Nellore is a sea-board district, having Kurnool and Cuddapah on its west, and touching Chingleput and North Arcot on the south. The first death was reported on the 15th July, in a taluq (Atmakur) bordering on Cuddapah district. The next taluq attacked was Nellore, adjacent to Atmakur on the east. In July 151 deaths occurred, almost all in these two taluqs. In August deaths were reported from all taluqs, except Ongole and Kanigeri in the extreme north, which enjoyed almost complete immunity up to the end of the year. After August, in which 1,072 deaths occurred, the total decreased in September (910), October (353), and November (173); rising to 358 in December.

Two deaths, on the 7th and 9th, were reported from the Conjeveram taluq, in the middle of the Chingleput district, in June; and one occurred on the 22nd in the Madrantakum taluq bordering on South Arcot; but the disease did not take hold. The only deaths in July were in the latter taluq also—one each on the 5th, 9th, 14th, and 31st. In August there were 215 deaths, some in each taluq; 92 in the town of Conjeveram (a favourite resort of pilgrims) and 56 in the taluq, 18 in Madrantakum taluq, 27 in Sydapet adjacent to the city of Madras. In September (295), October (350), and November (318), the epidemic was present in all the taluqs; and in December (327) in all but Trivellore.

Five deaths were reported from North Arcot, from parts bordering on the Mysore country, in July. In August cholera was present in every taluq except Wandewash, and 1,341 persons died. In September (1,754), October (937), and November (624), Palmanair was the only exempted taluq. It broke out here in the middle of December, and in that month the deaths were 1,194.

Cholera made its first appearance in Bellary district, in the taluq of Ghooty, in July. On the 21st and 25th deaths occurred, and subsequently in the adjacent taluq of Tadputri. Both taluqs are connected by railway with localities previously infected. In August 569 deaths were reported, in September 657, and in October the greatest number, 672. There were 345 and 134 in the following months.

The outbreak was somewhat later in the Kurnool district bounding Bellary on the north. On the 4th August the first death occurred in a taluq (Kovilkuntla) adjacent to Tadputri taluq, in which the disease was prevalent. On the 14th deaths began in

the Pattikondah taluq conterminous with Ghooty. In September, October, and November only two of the eight taluqs were free from the disease. These were Cumbum and Markapoor, cut off by a range of hills from the western parts of the district. In December, however, 5 deaths were reported from the Cumbum taluq. The epidemic reached its height (in the western taluqs) in September, when 447 deaths were recorded. In the closing months of the year the totals were 262, 118, and 19.

Cholera made its first appearance in Mysore in July, in the Gundlapet and Mysore taluqs. The former adjoins the Coimbatore district (where the epidemic began in June and was fully established in July), and the first death occurred on the 14th July; the latter lies next the Gundlapet taluq, and there the epidemic began on the 29th of the month. In August the disease was almost confined to the same two taluqs, though a few deaths occurred in four others, and some cases in the Toomkoor, Colar, and Bangalore districts, which appear to have been unconnected with the northward course of the disease. In September the deaths in the Mysore district rose to 738, from which they declined monthly to the close of the year; Toomkoor also reported its maximum 95; and the epidemic had spread into the Hassan district, probably from the south. In October deaths were reported from every district except Chitteldroog; and in the following months from every one. The total deaths in the province were 3,220; and the highest monthly mortality, 1,029, was registered in September.

Coorg escaped with 5 deaths in the year, of which 1 occurred in April and 4 in October.

Except July no month was altogether free from cholera in the district of Malabar. In January 1 death was reported from the town of Cochin, and 2 deaths in February from an unconnected taluq, Valavañad. In March, April, and May, 4 deaths occurred in Palghaut taluq, and 1 death in the Wynaad; a solitary death occurred in Ponani taluq in June. In August the epidemic began, first appearing in Ernad and Palghaut taluqs, the latter of which borders on Coimbatore. The deaths this month were 26; in the following months 146, 579, 1,227, 1,575.

South Canara remained free from cholera until November, in which month 8 deaths were reported. The disease did not come from Malabar on the south, the northern taluq of which was unaffected all through the year, but from Mysore on the east. The first deaths occurred in the Upinangadi taluq on the 7th, the Mangalore taluq on the 13th, and that of Udupi on the 17th. The disease seems to have got no hold on the district at this time, as no deaths were reported in December.

North of Nellore, on the sea-board, lies the Kistna district, on which up to the end of the year cholera had made little impression. It appeared in the taluq of Narsarowpett (or Rajapett) on the 9th September, causing 5 deaths. In the same month, but earlier (on the 2nd), a death had occurred in the Ongole taluq of the Nellore district, which bounds Narsarowpett on the south. Only 3 deaths were reported from the Ongole taluq in that month, and none subsequently; nor did the disease spread immediately in Narsarowpett, 6 deaths only occurring in October, and these in the latter half of the month. On the 1st November the last death in this taluq was reported. On the 24th of the same month the disease made a fresh start in the sea-board taluq of Masulipatam, and caused 3 deaths in November and 15 in December.

A strip of zemindary territory, from which but little sanitary information is obtained, separates the Kistna district on the south from the Ellore taluq of the Godavery district on the north. In this taluq only did any cholera occur; and only in the end of December 5 deaths were reported from the taluq and 7 from the town of Ellore.

Thus far the course has been described of an epidemic starting from the maritime southern districts of the Presidency and gradually advancing westward, north-westward, and northward. At the end of the year it had reached, in this last direction the southern part of the Kistna district. All above the Ellore taluq was free. Between this district and Ganjam the Vizagapatam district is interposed, and in it no cholera appeared in 1875. It is certain, therefore, that the Ganjam epidemic is unconnected with that of the south, and was imported from the north. In February a solitary death is reported from the zemindaries which seem to surround the Berhampore and Goomsoor taluqs on all sides, and in March another. In April 4 deaths occurred in the Goomsoor taluq; in May, 1 in the zemindaries. In June no death was reported. In July the disease became epidemic; 10 deaths occurred in the Goomsoor taluq, 1 in that of Berhampore, 4 in the zemindaries. In August the latter reported 9, and the town of Berhampore 6. In September 19 out of 20 deaths occurred in the town; in October only 5 deaths were reported. In November the total was 178: 100 in Berhampore taluq and 23 in the

town. 53 in zemindaries. In December the total fell to 114,—63 in the taluq and 15 in the town.

The number of deaths from small-pox was less in 1875 than in any year since 1871. Small-pox. It was 24,787, 0·8 per 1,000 of census population. No district escaped altogether. In Ganjam the mortality from this cause rose to 1·5 per 1,000; in South Arcot and Kurnool to 1·3; in Malabar to 2·8.

The mortality attributed to “fevers” has been increasing year by year since 1868. Fevers. The total in 1875 was 252,131, 8·3 per 1,000 of population. Fever mortality rose to or exceeded 10 per 1,000 in Ganjam, Vizagapatam, Godavery, Kurnool, Cuddapah, North Arcot, Salem, and Nilgherries.

Under bowel complaints 37,613 deaths were registered, a mortality of 1·2 per 1,000. Bowel complaints. Of the districts, Chingleput, Tinnevely, Nilgherries, South Canara, and Malabar suffered most severely from this cause.

A table of unnatural deaths is given below. Deaths by snake-bite were reported from every district except the Nilgherries. Wild beasts were destructive to human life in every district except the Nilgherries and Tanjore. Violent deaths.

Suicides	-	-	-	1,816
Wounding	-	-	-	880
Accidents	-	-	-	7,188
Snake-bite	-	-	-	2,306
Wild beasts	-	-	-	247
Total				12,437

SECTION V.

VACCINATION.

Vaccination having been transferred from the Medical to the Sanitary Department from the 1st April 1875, it becomes necessary to introduce the subject into this Report. I think it would be desirable, in future years, to include the Annual Report of the Inspector of Vaccination in that of the Sanitary Commissioner, altering the period of the former from the official to the calendar year. The confusion inseparable from so great a change as the transfer of control of the vaccinating staff from Government to Local Bodies has prevented my receiving complete returns of the work done in 1875; while the prevalence of cholera in most of the districts, and the utilization of vaccinators by the local authorities as distributors of cholera medicines, interfered seriously with the progress of vaccination.

So far as the papers in this office show, the total number of successful vaccinations performed in 1875 was 242,804. This is exclusive of operations performed in the districts of Tinnevely, Canara, Vizagapatam, Ganjam, and the town of Cumbum. The number of births registered (with the same exclusion) was 533,251. The ratio per cent. of the former total to the latter is 45·5.

In October 1874 Surgeon-General Balfour suggested to Government the plan of working the vaccinators of districts in bodies moving from village to village. “Confident of success,” he said, “I would like it tried in every district.” The Governor in Council had “great doubts whether the system would answer in rural districts,” but suggested that the subject might be considered by the several Local Fund Boards. The views of 20 Boards were laid before Government, and ordered to be recorded, with the remark that “the replies received from the Presidents of Local Fund Boards appear to be generally unfavourable to the proposal made by the Surgeon-General.” I do not think the system likely to yield satisfactory results in any case; but the disapproval of the Boards, whose hearty co-operation is indispensable to the progress of vaccination, is an insurmountable objection to the experiment.

SECTION VI.

SANITARY WORKS.

The following are some items of sanitary operations in municipal towns :—

Madras.

Waterworks ; new latrines ; new drains ; sanitary repairs.

Trichinopoly.

Three new latrines built, others repaired ; drainage and water-supply improved.

Tanjore.

295 yards of drain constructed ; market drainage improved ; latrines built ; two water conduits constructed ; wells improved ; tank improved ; drains repaired.

Negapatam.

Tanks improved ; wells cleaned ; latrines repaired.

Coimbatore.

Poudrette sheds erected ; 16 culverts built, and drains, &c., cleansed ; narrow lanes of parcherry widened ; wells improved and dug ; 3 new latrines built ; others repaired.

Vizagapatam.

A large well improved and utilised ; dhobies excluded from other wells ; 6 public latrines built ; 197 yards of surface drains constructed.

Nellore.

Water-supply improved.

Kurnool.

Water-supply channel completed ; 5 surface drains constructed ; cess-pools closed ; new latrines built.

Palamcottah.

One new latrine built ; a new tank excavated and another improved ; 3 wells improved.

Manargoody.

Water-supply improved.

Wallajahpett.

New spring-water pond opened ; wells improved ; drainage improved.

Bimlipatam.

1,004 yards of drains made ; tank deepened.

Ghooty.

Water-supply and drainage improved.

Coonoor.

Underwood cut away ; drains cleared and repaired ; latrines and slaughter-houses much improved ; water-supply channels repaired and constructed.

For all municipal towns together the proportion of total income expended on conservancy was 18·6 per cent. In individual towns (omitting Madras) it varied from 44·1 in Ghooty to 6·6 in Palghaut.

It occurred to me to inquire, so far as the imperfect data in our possession afford the means, whether sanitary expenditure has any apparent effect upon health, estimated by mortality. Accordingly I calculated the mean death-rate of the 13 towns whose expenditure on conservancy exceeded 30 per cent., on the one hand, and of those towns, also 13 (excluding Madras), on the other hand, whose expenditure was less than 20 per cent. I had no notion as to the result of the calculation; but, naturally, I hoped that it would be favourable to the cause of sanitary effort. And so it proved. The registered death-rate of 13 towns whose mean expenditure on conservancy was 34·8 per cent. of income was 27·7 per 1,000; that of 13 whose mean expenditure was 15·5 per cent. was 33·8, or 6·1 per 1,000 higher. To eliminate from the comparison the possible effect of freedom from cholera, I struck out from both lists those towns—3 in the former, 5 in the latter series—in which no cholera mortality had occurred. I then found the death-rate of 10 towns, expending 34·9 per cent. of income on conservancy, to be 29·2; and that of 8 towns, expending 14·3 per cent., to be 34·6. The difference is 5·4 per 1,000, apparently in favour of sanitary expenditure.

The necessity for some organization by which the Sanitary Commissioner may be made and kept acquainted with the condition and requirements of non-municipal towns and villages is, I think, very obvious. I have submitted for the consideration of Government suggestions for an organization of an inexpensive, but (as appears to me) tolerably efficient, reporting Sanitary Department, and I am anxiously awaiting orders on the subject.

ABSTRACT OF REPORT OF THE SANITARY COMMISSIONER FOR BOMBAY FOR 1875.

(*Surgeon-Major J. Lumsdaine.*)

SECTION I.

VITAL STATISTICS.

Births.

In a population of 16,228,774, the number of births registered during 1875 was 340,829, of which 178,892 were male and 161,937 female. This is the highest total yet recorded, and it exceeds that of last year by 8,021. The ratio per 1,000 for the year is 21.01. For every 100 male births the females were 90.52, so their respective percentages were 52.49 and 47.81; and taking the proportion of boys to girls *living*, the respective percentages were 52.80 and 47.20.

I said in last year's Report that the rate of births should be 40 per 1,000 instead of the 18 per 1,000 shown, and that, instead of our annual total of 285,670 (the mean of four years), it should be 664,705. We have not reached this figure yet, but already it looms in the future. When registration was introduced in 1871 the numbers for that year were 252,609; in the next year the increase was 14,334; in the next it was 23,376; in the next 42,489; and in the year under notice it is only 8,021. But notwithstanding the falling off for 1875, the numbers then recorded exceed those for 1871 by no less than 88,220, and the *annual average* increase for the five years has been 22,055.

Turning to Mr. Hewlett's Bombay City Census Report, we find the females are there classified as (1) single; (2) married; (3) widows; (4) women whose civil condition was not stated. Taking the ordinary limits of childbearing to be between 15 and 40 years, and dealing only with the married, they are thus shown:—

Between 15 and 20 years	-	-	-	-	22,024
" 20 " 30 "	-	-	-	-	50,478
" 30 " 40 "	-	-	-	-	28,379
					100,881

or say, in round numbers, 100,000.

The majority of these 100,000 may be supposed to be living with their husbands; but let us assume that 25 per cent. are not. Of the 75,000 who live with their husbands, will it be too much to assume that the child expectancy for each may be once in 30 months? If this be assumed it gives 30,000 births per year; and if to this we add the births amongst the unmarried and the widows, the total would not be far short of 35,000. The total returned is between 16,000 and 17,000.

Deaths.

The deaths from all causes, exclusive of *born dead*, were returned as 375,718. Of the numbers for the ten years from 1865 this was the maximum. This is partly owing to the high mortality from cholera, but some of the increase is, no doubt, due to what may be termed recoveries by improved registration. The rate per 1,000 was 23.15.

Last year the births recorded exceeded the deaths by 54,156; but this year (1875) the deaths are more numerous by 34,889.

Of the 375,718 deaths registered, there were 199,712 of males, and 176,006 of females; a proportion of 53.15 of the former to 46.85 of the latter: similar proportions for the living are respectively 52.27 and 47.73. Of males dying to males living, the ratio per 1,000 was 23.54, and of females dying to females living it was 22.72; for both sexes it was 23.15. For every 100 males dying there died 83.13 females, and for every 100 males living there should now be alive 91.32 females.

In 1875 the rural and urban rates of mortality were respectively 23.63 and 19.37 per 1,000, whilst in 1874 they were 16.3 and 23.5. At home the urban rate exceeds the rural by about 25 per cent., and *cæteris paribus* the balance should here be against the towns. In the Report for 1874 I said that a truer general rate would be something like 35 per 1,000, and now, after again going carefully over the whole question, I see no reason to change the opinion then expressed.

The maximum mortality for the year was in Khandesh (31,051), and the minimum (711) was in the Upper Sind Frontier. In 1874 the maximum and minimum were respectively in Dharwar and the Upper Sind Frontier. For this year the deaths in Dharwar were 30,538, and in Belgaum they were 30,064.

The monthly maximum death-rate was 2·67 in July, and the minimum was 1·36 in February.

By quarters the death-rate was lowest in the first, and highest in the third. For the first and last quarters the results nearly agree with those for last year, but the second and third quarters have changed places. The comparatively low death-rate in these quarters in 1874 is partly due to the absence of cholera. The contrasting figures are here shown :—

Quarters.	Total Number of Deaths.		Ratio per 1,000 on Total Population.	
	1874.	1875.	1874.	1875.
1st Quarter ending March	67,384	71,849	4·15	4·43
2nd do. do. June	63,440	94,731	3·91	5·84
3rd do. do. September	69,394	117,564	4·28	7·24
4th do. do. December	78,434	91,574	4·83	5·64

Taking the deaths from 1870 to 1875 inclusive, it is found that in the cold season the mortality was highest in 1872, and lowest in 1870; in each of the other seasons the maximum was in 1875, and the minimum in 1870. The subjoined table gives the total mortality in each season from 1870 to 1875, inclusive :—

Seasons.	1870.	1871.	1872.	1873.	1874.	1875.
Cold	70,875	88,880	111,484	100,661	43,588	101,304
Hot and Dry	29,944	45,337	56,383	44,238	41,985	57,869
Rainy	72,184	96,054	136,443	92,592	90,849	154,426
Hot and Damp	46,724	49,455	62,747	53,481	52,230	62,119
Total	219,727	279,726	367,057	290,972	278,652	375,718

Comparing 1874 with 1875, the deaths from each specified cause, except small-pox, were higher in the latter year, thus :—

	1874.	1875.
Cholera	37	47,555
Small-pox	3,903	3,461
Fevers	183,717	219,156
Bowel complaints	26,990	33,650
Accident or violence	6,165	6,217
All other causes	57,840	65,679
	278,665	375,718

In noticing the Report for 1874, Government suggested that perhaps it would be advisable “to establish in the great cities, and in a smaller number of representative towns and villages in each collectorate, a real system of registration, properly supervised, and draw the conclusions from these only.” Now a real system of registration, to be thoroughly effective, would necessarily entail a separate and special agency, and it would involve considerable expenditure. But if the scheme of improved sanitary organization be sanctioned by the Government of India, I think we may safely predict an increased value for the registers, and there will then be a very fair amount of supervision. It can hardly be meant that births and deaths in places other than those specified were not to be registered, so I take it they were to be returned, as at present, from all the units which make up the Presidency, but were only to be compiled for the selected areas. If no use were to be made of what may here be termed the outside returns, there would be little use in transmitting them to a central office, but seeing that we have them for the past ten years, it would be a pity to give up the ground already gained, more especially as the prospect is more promising. If, again, in these outside areas it were known that the deaths, though registered, were not returned to an office in which they are so closely scrutinised, they would gradually become less and less accurate. I cannot but think it will be better to lighten the mass, and let it work—no matter how slowly.

SECTION II.

HISTORY OF THE CHIEF DISEASES.

Cholera.

For the districts as they now stand our complete records only go back to 1866, so that the close of 1875 ends the decade; and in this period the total of deaths from cholera has been 158,960, the annual mean is 15,896, and the rate per 1,000 is 1.11.

Commencing with 1866, the deaths in that year numbered 23,037, and the rate per 1,000 was 1.85.

In the two following years (1867-68) there was marked immunity, but in the third year (1869) there was a return, and this time a heavier one. In that year the deaths were 52,380, and the rate per 1,000 was 3.77.

Again for two years (1870-71) there was a comparative freedom, and again in the third year (1872) it came back; but this time with less severity. The deaths were 15,642, and the rate per 1,000 was 1.03.

For the third time there were two years of very marked immunity (1873-74), and for the third time it has returned in the fatal third year. During this last recurrence the deaths have been 47,555, and the rate per 1,000 is 2.93.

These details are best seen when tabulated thus:—

	Deaths.
1866	23,037
1867	5,143
1868	6,447
1869	52,380
1870	2,666
1871	5,821
1872	15,642
1873	232
1874	37
1875	47,555

There is here the record of a fact that on four successive occasions there was a visitation, or recurrence, or revival, every third year. But then there is also the fact that in 1865, the year before our complete tables commence, the total of deaths reached a maximum of 83,148. Whatever were the conditions which in 1865 brought about this terrible mortality, we may assume that in degree there were similar conditions in 1866, 1869, 1872, and 1875.

96,012 persons were attacked with cholera during the year, of whom 47,555 died. Of these 25,397 were males, and 22,158 females, or in the proportion of 87 females to every 100 males.

By seasons the greatest number of deaths (35,382) occurred during the rains, whilst in the preceding year the greatest number was in the hot and dry season.

Seasons.	1873.	1874.	1875.
Cold	198	6	831
Hot and dry	58	21	6,154
Rainy	22	8	35,382
Hot and damp	5	2	5,188
Total	283	37	47,555

In January 1875 there was one death in Bombay city, and in February there was another, but with these exceptions the year commenced without any reported cholera anywhere.

On the 22d March there was a case in the town of Nassick, and from this date to the end of the month there were 10 others, which all ended fatally; in all there were 29 attacks. The first case was that of a Gosain, who had come from Dwarka. At first it was thought he must have brought the disease with him, more especially as it is said he had had diarrhœa for some days before he arrived; but neither at Dwarka, nor at any intermediate place, had there been a sign of cholera; and after due inquiry on the

spot, Dr. Cody (who was at Nassick during the whole of the outbreak) inclines to the belief that it originated in the exposure, the irregularities, and the excesses of the Holi festival, which commenced on the 22d.

During April there were 959 attacks at Nassick, and 481 deaths, and it now appeared in other districts. In Khandesh there were 26 deaths, in Ahmednuggur 65, in Poona 43, in Sholapur 1, in Rutnagherry 8, in Tanna city 3, in Bombay city 31, in Kaira 95, in the Punch Mehals 41, and in Ahmedabad 1. Amongst the civil population there were 796 deaths, in cantonments 8, and 1 in a jail; so the total for the month was 805. In native territory there was an outbreak at Baroda, but there is no record of the particulars.

Taking Nassick as the centre of infection, or revival, it would be extremely interesting to trace the course of the disease through the several districts in which it appeared, but the means are not forthcoming. Very excellent reports have been received from Nassick, Kaira, the Punch Mehals, and Ahmedabad; but in these even there is not the requisite precision as to dates. When the outbreak first occurred there were taking place numbers of caste dinners, wedding feasts, &c., and then came the Holi with all its excesses; so here were causes for the bad form of diarrhoea which was said to be prevalent.

The following relates to the agency of human intercourse. In the Kaira districts there was no cholera, but it was at Baroda. One of the Municipal Commissioners of Nariad went to Baroda, was attacked immediately after his return home, and died, and the disease then spread through the town. In the Borsad taluka a man was attacked after visiting Nariad; six others of his household were attacked, and all seven died. There was no other case in the village, nor was there anything in the condition of the house or its surroundings different from other houses. From the Nariad and Borsad talukas it spread over the entire district, and appeared erratically in village after village. The one fatal case in Ahmedabad was brought by railway on the 29th April from Anund in the Kaira district. On the 17th it appeared in the Punch Mehals, in the Kalol taluka, and here it is said to have been imported from Baroda and Kaira.

During May it was in all the districts named except Sholapur, and it also appeared in the Colaba and Surat districts. On the 25th May it broke out in the city of Broach, and is said to have been brought there by persons returning from the usual fair at Dakor.

In June it re-appeared in Sholapur, and spread to the Satara district. It was also reported from Thar and Parkar in Sind, where none had occurred since 1869. On the 21st June a case occurred at Pandharpur. It was that of a Brahmin woman who had arrived on the 19th from Baroda. She was then reported as suffering from diarrhoea, and died two days after her arrival. Three days afterwards (on the 24th) a man living some 12 yards off in the same court-yard was attacked, and died within 12 hours. From this time cases occurred in different quarters of the town, and there were from two to four deaths daily up to the 14th July, the time of the Jutra.

During July it was at all the places named, and three cases were reported from the Ghizri sanitarium near Kurrachee. It now appeared in the Belgaum and Kaladgi districts (on the 5th at Indi), having been brought, it is said, by pilgrims returned from Pandharpur. The Jutra at Pandharpur lasted from July 14th to 24th, and during this time there were 193 admissions in the civil dispensary, and of these cases 85 (44 per cent.) were fatal. By the police returns there were 380 attacks, and 242 deaths (40 on the Kala day). There were 28 deaths amongst the resident inhabitants, and 182 amongst the pilgrims. From the 19th June to the 6th July, when the pilgrims began to assemble, there were 26 deaths, and 216 after. There were 50 cases before, and 330 after.

In August it was in every district of the Deccan except Dharwar. In the Konkan only Kanara was exempt up to the 30th. In Guzerat it was in every district. Sind was free. At Pandharpur the last case was on the 18th August.

In September it was in every Deccan district, having broken out in the first week of the month at Byabhuti, in the Hubli rural circle. In the Konkan Kanara was still exempt, and in Guzerat the Punch Mehals and Broach were free. There was none in Sind.

In October it was still in every district of the Deccan. In Guzerat it disappeared from Kaira, nor was there any in the Punch Mehals or Broach, or in Sind.

In November it disappeared from the Khandesh and Poona districts. Ahmedabad, Broach, and the Punch Mehals were free, but it re-appeared in Kaira. Sind was free.

In December it had left five out of the nine Deccan districts, remaining in Sholapur, Belgaum, Dharwar, and Kaladgi. With the exception of Colaba, it was in every district of the Konkan. In Guzerat it was only in the Surat and Kaira districts. Sind remained free.

In the reports from Kaira and Dharwar it is recorded that the disease advanced against the wind, which was then blowing steadily and strong from the south-west.

Small-pox.

In 1875, 3,461 deaths from small-pox were recorded, 442 less than in the preceding year. The number of fatal cases in 1875 is the least recorded since the commencement of the registration of deaths. Of the 3,461 deaths, 1,708 were males, and 1,753 females, or in the proportion of 103 females to 100 males. Out of every 4,689 persons living, and out of every 109 deaths from "all causes," there was one from small-pox.

The ratio of deaths from this disease per 1,000 of population for the year was 0·21, 0·20 of males and 0·23 of females. The following statement shows the number of deaths from small-pox and the ratio to population in each of the previous 9 years :—

Years.	Deaths from Small-pox.	Ratio per 1,000.
1866	3,846	0·31
1867	8,802	0·66
1868	15,183	1·19
1869	12,606	0·91
1870	4,609	0·34
1871	9,443	0·66
1872	26,699	1·76
1873	9,935	0·61
1874	3,903	0·24
1875	3,461	0·21

In 1875, in only 5 of the 85 Registration Circles the death-rate from small-pox exceeded one per 1,000 of total population.

The highest number of deaths recorded from this disease in 1875 occurred in Belgaum Collectorate, where 693 fatal cases are reported to have taken place. 600 deaths were reported from the Kaira Collectorate. Only one death is returned in the Shikarpur Collectorate, and the Upper Sind Frontier district was entirely free.

The maximum mortality occurred in April, when 577 deaths were recorded, and the minimum in October, when 91 fatal cases took place.

Fever.

By far the greatest number of deaths is, as usual, attributed to fever. In the year under report 219,156 persons are said to have died from fever, against 183,717 in the preceding year.

The mortality from this cause and the ratio per 1,000 for 1875, as compared with the 9 previous years, were as under :—

Years.	Deaths from Fever.	Ratio per 1,000.
1866	94,456	7·60
1867	89,841	6·78
1868	97,665	7·63
1869	129,117	9·29
1870	131,035	9·69
1871	167,677	11·85
1872	206,747	13·60
1873	188,201	11·59
1874	183,717	11·32
1875	219,156	13·54

From the foregoing table it will be seen that, though the rate is somewhat less than that for 1872, yet it is far above the average. The aggregate number of deaths from this cause exceeds any of the past years.

Of the 219,156 deaths from fever, 116,157 were of males, and 102,999 of females, being in the proportion of 89 females to 100 males.

The numbers of deaths in the different seasons were as follow :—

Months.	Seasons.	Deaths from Fever.	
		1874.	1875.
December, January, February, March -	Cold - - -	64,590	68,801
April, May - - -	Hot and dry - - -	27,245	34,260
June, July, August, September -	Rainy - - -	55,381	76,465
October, November - - -	Hot and damp - - -	36,501	39,630
	Total -	183,717	219,156

The registered deaths from diarrhæa and dysentery are shown in the following table since 1866 :—

Bowel complaints.

Years.	Deaths from Bowel Complaints.	Ratio per 1,000.
1866 - - -	20,239	1·63
1867 - - -	17,373	1·31
1868 - - -	19,361	1·51
1869 - - -	30,128	2·15
1870 - - -	25,836	1·91
1871 - - -	30,422	2·15
1872 - - -	33,664	2·22
1873 - - -	26,259	1·62
1874 - - -	26,990	1·66
1875 - - -	33,650	2·07

The total deaths from this cause reported were 33,650; 18,761 were males, and 14,889 females, being in the proportion of 79 females to every 100 males. It was most prevalent in the Dharwar Collectorate, where 4,686 deaths were recorded. In the Upper Sind Frontier only 14 deaths are said to have taken place from this cause.

The maximum mortality was in August, and the minimum in February.

Deaths from accident or violence are arranged as follows :—

Injuries.

Suicide - - -	821
Wounding - - -	425
Accident - - -	2,376
Snake-bite - - -	1,207
Wild beasts - - -	80
Otherwise - - -	1,308
	<u>6,217</u>

SECTION III.

RECORD OF PERSONAL PROCEEDINGS.

It has been proposed by the Irrigation Department to establish a sewage farm on a selected site near Poona, and to utilise upon it the excretal matters from the different regimental latrines. The removal is to be by water-carriage, and the power will be provided from the Kurrukwasla Canal, which is now the source of supply for the cantonment and city. The present system of removal by hand is carefully worked, but, with all the attention that can be paid to it, there must always be the drawback of delay in removal. It is hoped that the new scheme may be introduced during the current year, so that its details and working may be explained in the next Report. The success of the sewage farm at Madras augurs well for the one proposed for Poona, and, should it succeed, its benefits can be extended to the cantonment bazaar, and eventually to the city and other places.

Sewage Farm at Poona.

In compliance with orders, the following memorandum was drafted and circulated for general guidance, and it was also asked that civil surgeons would furnish reports on the topography and condition of such towns as were within their immediate reach, and make such recommendations for improvements as might suggest themselves :—

(*Memorandum.*)

"It is almost impossible to lay down *seriatim* the duties of the Health Officers appointed by the above Resolution,* nor can they be defined satisfactorily by quoting from manuals written for places where Sanitary and other Acts are in force. In this Presidency for very many years to come none but the simplest measures will be required, and perhaps it will be sufficient to mention some of the chief points to which attention should be directed.

"*Registration of Births and Deaths.*

"The registration system has been described in the Sanitary Commissioner's Report for 1873, and until such time as there can be found for it a separate and special agency, it will perhaps be more expedient to work it under the orders of the Collector.

* * * *

"Seeing that the village is the primary unit, the initial register must begin there, and there would be no difficulty if in each village there was a qualified resident subordinate to note down births and deaths as they occurred, together with the cause of death. But many patels can neither read nor write, and when the registering *kulkarni* comes round they have to tax their memories as to when this or that child was born, or when such and such a person died, and from what cause. No opportunity should be lost of urging upon the people the importance of themselves reporting all domestic occurrences to the head of their village, and he, if unable to write or to keep a score, will always find some one ready to write or keep it for him. The larger the village the more probable is it that in it some one will be found, and in the smallest even there is generally one Buniah who can write, and whose entries would be available for the *kulkarni* when he paid his visit. In ordinary times the entries for an ordinary village would be very few, and would give very little trouble if made at the time. The new Village Register will be a book with a number of blank forms.

* * * *

"The form itself will be sent to the Mamlutdar, but its counterfoil will remain in the village, and a glance will show if it has been properly kept and posted up to date. The *born dead* are not to be included amongst the total of births or deaths, for, never having had an independent life, it cannot be said they died. At the same time it will be well to know how many there are, and in what localities they are most frequent.

"Ages are now to be registered under four heads, thus:—1. Infants unable to walk ; 2. Boys and Girls ; 3. Adults ; 4. Old People. It is suggested that infants are those under 1 year, that boys and girls are those from 1 to 12 (that being the limit fixed by the Statistical Committee), that adults are those from 12 to 50, and that old people are those from 50 upwards.

"The registers will be kept for the calendar year.

"*Conservancy.*

"By surface conservancy is meant the removal of surface refuse from public and private houses, and outhouses, enclosures, streets, &c., the ordinary dirt and refuse always and everywhere collecting above the surface. Of this nothing should remain either within the house or its enclosure, and, where no receptacles are provided for its deposit, it is far better that it be thrown out on to the street at those times when the streets are being cleaned, or that it be carried to the common heap. This common heap or lay-stall should be on the N. or S. of the village, or at both points if more convenient, or between N. and N. by E. or S. and S. by E. It should never be on the other side of the circle, that is, the half circle from N. through W. to S. It might be enclosed by mud or dry stone walls, and the bulk of material can always be kept down by burning. There is probably no village which could not, on its own lands, use up its own collected refuse, nor is there one in which it should not be collected. There is one season or time when the people themselves will voluntarily co-operate. As each Dewali festival approaches there is a general cleansing and whitewashing, and at this time, if at no other, each village may be fairly cleaned. The opportunity should never be lost.

"Other refuse is the liquid house waste ; the water brought to the house for domestic or manufacturing purposes, and not actually consumed. This should always be led out of the house and its enclosure, and from the point of escape it should be led in as straight a line as possible to the nearest drain.

"There should be no cesspools, for as holes outside village huts they are objectionable and offensive, and as underground chambers to houses in towns they are positively dangerous. They exist in their worst form in Kurrachee and Surat, and every opportunity should be taken to get rid of them.

"Other refuse is the night-soil, and wherever there is a house privy the owner of the house or the occupier should be responsible for its condition and cleanliness. The people generally use the fields outside the village, and, under the circumstances, it is about the best thing they could do, but then it should be done under a system. The filthy habit of fouling the lanes, streets, and open places *within* the village should be put down unhesitatingly. Places of resort for both sexes should be carefully selected ; near enough for use, but as far as possible from dwellings, present and future, and from tanks and wells, and all sources of water-supply. On the score of decency these places should be screened, and there is no better enclosure than a milk bush hedge

* See Vol. VII, p. 22.

(Euphorbium), so trimmed as to let the breeze blow over the ground surface. The prickly-pear (*Opuntia Dillenii*) should never be planted, and huge embankments and walls are almost as objectionable. The making of trench latrines can generally be managed, but less easy is it to provide for their maintenance, and to get for them the indispensable establishment. Unless this is to be had it is better to do without them—far better not to have them than have them and neglect them. When they are made they should be from one to one and a half foot deep; earth should be thrown into them at the time of using them, and each day's deposit should every day be well covered over; in this way alternate sites can be used over and over again. If no trenches can be opened, or if for those opened the establishment to attend to them be too small, a pit can always be made, and into this pit should be thrown the ordure swept up daily from the places of resort. The pit may be of any shape, and if it be a long one the people can use it as they would an ordinary trench. Although shallow trenches are to be preferred, all things being equal, deep ones, or pits even may be used without the slightest risk, provided they are managed properly. They must never be near any source of water-supply, nor must their position be forgotten and built over. The fæces and earth should be well mixed, and, as the demand for the compost will have to be created, it will be safer not to touch it for two or three years. At the end of this time, if the pits be re-opened, it will be seen that there is nothing in them but a rich mould, free from smell, and valuable as a manure.

“ Drainage.

“ Ordinary surface drainage here means the providing for the removal or escape of such water as would otherwise lodge. It may be from a cook-room or a bathing-place or a privy; and it may lie within a courtyard, or just outside, or in the street, or there may be some excavation filled by rainfall. In many instances a few baskets of earth will suffice, or a cutting will lead to a natural channel. It should always be led away from dwellings as quickly as possible. Open segmental drains are the best; indeed no *square* drains should ever be made. The sides should be smooth and impervious, the object being to carry off quickly whatever is to be carried off, without polluting the subsoil. Where nothing better is to be had, much may be effected with well-cut trenches lined with common ridge and roof tiles, and in Sind the natural soil will puddle into excellent channels. In this Presidency, with good surface drainage, there are few town or village sites where much will be required in the way of subsoil drainage. Regular sewerage and drainage must, of course, be for engineers to carry out.

“ Water Supply.

“ When the supply is from tanks, neither bathing nor washing of any kind should be permitted within them, or on any spot which drains into them. Wells should be protected from acquired impurities, such as leaves, &c. They should have parapet walls, and on these no washing or scouring of pots should be permitted. The ground immediately around them, and that round the cattle-troughs, should always be drained. When the supply is from running streams, it should be drawn from a point above the village, and all fords and operations entailing the use of water should be below the village. Periodical cleaning of tanks and wells should be attended to.

“ Epidemics.

“ The special peculiarities of an epidemic can best be noted by the curative agency which combats it, but the reported characteristics may always be inquired into, and its course through a locality laid down very fairly. It is at these times that measures may be carried to which a deaf ear has long been turned, and with tact the opportunity may always be turned to advantage.

“ It is not intended that Health Officers shall have executive powers, and obviously the assumption of powers which have not been delegated to them must bring them into conflict with the civil authority; they are the constituted advisers of the authority, but not the authority itself. The more they can gain the confidence of the people the stronger will be their position. In their relations to the Sanitary Commissioner there is nothing whatever to interfere with their duties in their own department, and those duties will always be their first care. Vaccination is carried on in districts to which the system of registration has not been extended (in Kattywar for instance), but although in those districts there will be no village returns to examine, none the less can local sanitary defects be pointed out, and advice given as to how they may best be remedied.

“ It is only by the cordial working together of all concerned that an effective sanitary system may be developed.

“ JOHN LUMSDAINE,

“ Sanitary Commissioner.”

“ 2d April 1875.

There can be no doubt that a scheme such as that proposed would eventually develop into a real and active sanitary organization. At the time of writing the matter is still with the Government of India, and very probably it will be sanctioned. If so, a very short time should see it in working order, and then in all directions there will be constantly moving over the face of the country a set of more or less trained observers, whose special duties it will be to inspect, advise, and report; and, whilst they look to local conditions, they will also turn their attention to the details of registration; so the outcome of the work cannot but be satisfactory.

And when the Sanitary Commissioner is more released from statistical routine, he can devote almost all his time to those important duties of inspection and topography, by which alone it will be possible to try and establish a connexion between the death-rate of an area and its physical conditions.

Drainage of
Government
buildings in
Bombay.

To discharge the waste from the Secretariat and from all the public buildings on the Esplanade, there is the choice between an *eastern* outfall through the Fort system of sewers, and a *western* into Back Bay, dead to windward. For the Secretariat the eastern outfall was first selected, and, as I understand it, a house drain ran round the building, collected the house-waste and rainfall, and carried them to the nearest Fort drain some 200 yards off. It having been found that sewer gases entered the building (there being nothing to prevent it), the connexion with the Fort drain was abandoned. A new brick-drain, some 1,500 yards long, was made, and carried dead to windward to a point in Back Bay professedly below low-water mark, where it discharges on to a rocky, broken shore line.

The resident Under Secretary having reported that the drainage was still defective, a committee was appointed to inquire into it, and on that committee I first learnt how matters stood. The points to be seen to were obviously—

1. The waste pipes.
2. The house drain.
3. The outfall sewer.

The waste pipes are those for rain water, and those from kitchen, bath-rooms, lavatories, and urinals; but there is no plan to show their numbers, their size, the traps, the connexions with the house drain, and the method of ventilation. There are no waterclosets, the pans being removed by hand when necessary.

With the exception of the pipes for rain water, all the others are *within* the building, and except a shallow water seal, by itself almost useless, there is no safeguard whatever against the return escape of gases from the house drain and the outfall sewer.

Not only in the Secretariat, but in all Government buildings, all pipes should invariably be *outside*; they should be specially ventilated, and entirely disconnected with the house drains. The ventilating pipes should be taken to the ridge, and there fitted with Latham's spiral charcoal ventilators. The drain pipes should discharge into Mansergh's gully traps, and if these be used the discharge can be below the ground line. Another method is that shown in Baldwin Latham's *Sanitary Engineering*, p. 320, fig. 106. The existing house drain may be kept for subsoil drainage, but for that only.

For house drainage it would be better to lay down egg-shaped glass or salt glazed pipes, every tenth an access pipe. At every 100 yards have a spiral charcoal ventilator, and at the junction with the Fort sewer have a proper junction block laid within the water line. At each gully there should be special ventilating pipes, and the rain-water pipes should not be used for this purpose.

As regards the new outfall drain, I cannot but protest, and most strongly, against any sewage being discharged into Back Bay, at a point so close to the Fort, and so dead to windward. It is said that at the outlet the discharge is inoffensive; but, if this be so, it only proves that the sewage impurities never reach the outlet. The gases which now escape at the heads of the rain-water pipes are convincing proof that the contents of the drain are highly offensive, so that clearly they should not be discharged to windward; and if they are inoffensive, why take them 1,500 yards, and by a tide-locked brick drain, when at 200 yards they can be run into a Fort drain? Unfortunately the longer drain has been made, but it can be used to drain the whole of the oval in front of the public offices south of the General Post Office.

I would ask that the drainage principles here advocated may be adopted in degree, and adapted to all Government buildings completed, under construction, or yet to be constructed. I ask this very earnestly, because it is my firm belief that, unless something be done, it is a mere question of time as to when typhoid fever will make its appearance.

The Boree Bunder lines are now occupied by the 20th Regiment N. I., and the following is the strength:—

Boree
Bunder
Sepoy Lines.

Native Officers with their families	...	...	62
Rank and file	...	...	639
Women	...	...	241
Children	...	...	248
Authorised Followers with their families	...	...	57
Followers	...	...	45

Total.....1,292

In addition there are the lines for details, merely separated by a railing. In all there are some 40 blocks of huts in parallel rows, running east and west. Each has 20 rooms, back to back, and each room is 10' $\times$ 10' with an enclosed verandah 10' $\times$ 3'. The height to the ridge is 13', the front wall is 7' 6", and that of the verandah 6'. In each verandah is a small bathing place, which now discharges its waste anywhere. The plinths are from 9" to 1' high, the roofs are single-tiled, the floors are mud, and the walls are lath, mud-plastered. Since the lines were first occupied no urinals have been provided for them, nor was there any latrine accommodation until very lately. Nor has there ever been any drainage proper; but along the west and windward front there is an old square, dry-laid drain, some 4' deep, which during the monsoon carries off the storm waters: at other times it is almost dry. It joins one of the foulest city sewers, but there are no precautions of any sort at the point of junction.

Such is the condition of these lines within their boundary; but without there are other and great drawbacks. At the N.E. corner is the nightsoil depot, where the daily collection averages over 100 tons solid and liquid. At the S.E. angle is the siding where the surface sweepings and house refuse are shot into railway trucks for removal to the municipal lay-stall at Coorla: here, too, the daily collection is very many tons.

With a view to the general improvement of the lines it has been proposed by the military authorities to rebuild the huts, to raise the plinths, to face the bathing places with stone, and to discharge their waste on to open cut stone segmental carriers; these again are to join similar longitudinal channels running between the blocks, and parallel to them, and ultimately they are to join the old drain already mentioned.

Although the carrier system is the best for removing the waste from huts which are themselves too rude in construction to admit of their being connected with sewers, it will be advisable to alter the arrangement by which the waste is to reach the sewers. If the levels will permit of it, I would suggest that the longer channels be given a slope from W. to E. with the wind, instead of from E. to W. against it. If this can be done, a pipe drain of suitable diameter could be laid across the east front, and properly connected with the sewers. The old drain on the west would still serve to carry off the storm waters; but, under any circumstances, it must be properly connected.

With regard to the bathing places within the huts, I may here mention that when the drainage of the Marine Battalion lines was under consideration, I recommended that *detached* lavatories should be put up,—mere screened platforms, to which Vehar water might easily have been laid on, and which, together with such urinaries as would suffice, could all have been drained from a single pipe. There were many assertions that the proposal was impracticable, but not one argument to show that it was so; and so convinced am I that in a very short time detached lavatories would be fully appreciated that I have asked for a trial of one or more in the Boree Bunder lines, together with urinaries. At present sepoys, women, and children may be seen at all hours of the day washing themselves and their clothes at the various wells on the esplanade,—not a pleasing sight, and in direct contravention of the Municipal Act.

It has been proposed by the Brigadier-General that, except on their west front, the lines should be enclosed by a masonry wall 14' high, and there I join issue. It is said that the wall will lessen the nuisance of the night-soil depôt and sweepings siding, and prevent dirt being thrown into the lines from lines occupied by the municipal halalcores. Now these halalcores occupy a line frontage of some 230', whilst the proposed wall is to run 625', and if dirt is thrown over it can be easily prevented by a close-set railing of the necessary height. The east front in 675', and the sweepings siding is to be removed bodily, so no wall will be wanted there; nor would it have been of much use, for the tipping platform is 16' above the rails, whilst the wall would have been 14'. As regards the night-soil depôt, without a doubt it is a horrible nuisance: indeed, so bad is it that the wonder is it has been tolerated so long, when it might at any time have been closed by an injunction of the High Court. But though it is a nuisance, little good would have come from screening it as proposed, and far more effective measures have already been taken. In place of the old uncovered enclosure there is now a masonry building, roofed in, and well ventilated. There are powerful engines for emptying the tanks and flushing them, and they can now be emptied and flushed in from 30 to 40 minutes, and still further improvements are contemplated. The Municipality are doing their best to mend matters, and time alone can show how far they will succeed. At the same time, when all is done that can be done, the working upon a point so close to one of the busiest thoroughfares must always be objectionable, and nothing can be done here that will not be merely palliative. The only real remedy is the closing of the depôt, but this involves a solution of the general drainage question.

The north frontage is 720, and seeing that in Bombay the most frequent winds are from points between W. and N.N.W., the effect of a wall on this side would be to exclude more and more every shift of wind to the north of west. According to the proposal the lines would be converted into a *cul de sac*, with an untrapped drain across the open and windward front.

I have proposed that the followers' huts be shifted over to the east side, and that certain of the sepoys' blocks be moved to other sites, so as to widen the approach to the Carnac over-bridge, and, at the same time, to open out, and, as it were, isolate the lines. In exchange for the ground taken on this side, the eastern boundary can be advanced to the railway limit, so as to take in a plot measuring 3,320 square yards.

Pandharpur
Temple.

I am glad to say that at last most of my proposed alterations to the temple have been accepted by its guardians, and they are now being carried out. The outside arrangements are in the hands of the Municipality, and there will be no difficulty in dealing with these; so, on the whole, the question has been settled very satisfactorily.

European
General
Hospital.

In October last I received from the Secretary to Government in the Public Works Department (Major-General Kennedy) plans and estimates connected with the proposed arrangements for removing the European General Hospital from the buildings now occupied to others within Fort George. It was stated that the removal was necessary in order to provide better accommodation for the European sick, and also on account of the engagement Government is under with the Great Indian Peninsula Railway Company to clear the site occupied by the present hospital. It was urged that the proposed buildings would afford suitable accommodation, at all events for some time to come, because

- (1.) The position they occupy is held to be one well suited for a European General Hospital.
- (2.) The buildings it is proposed to alter and adapt are substantially constructed and well raised.
- (3.) They have a good aspect, being in this respect similarly situated to the existing buildings.

It was further stated that the project provides for such additional subsidiary accommodation as has been considered requisite by the medical authorities, whose approval of the plans has been obtained. It was referred to me in order that I might point out any omissions which might occur to me in regard to sanitary arrangements, and which might have escaped the notice of those officers through whose hands it had already passed.

To understand the position, it must be remembered that, when Fort George was occupied by Artillery, their hospital was a mere enclosed shed, in no way suitable; but such as it was, it was used. When the troops were withdrawn, this shed was made over for the accommodation of the general European sick of the place, and there they have been treated ever since, upwards of ten years. Within the Fort there were also long upper-storied ranges of officers' quarters, of which some were pulled down to make room for a railway which never came. Of the remaining blocks the smaller is occupied by the resident Surgeon, and the upper floor of the larger has been divided into wards for those sick who cannot be accommodated in the hospital proper. I should add that, although Fort George is still so spoken of, it is not a Fort now.

It is unnecessary to describe in detail the several alterations which were proposed, but the existing hospital was to be given up, and in place of it the old ranges of officers' quarters were to be taken over, altered, adapted, and added to.

In reporting upon the project, I said that, in addition to the question as to whether the buildings when altered, and those to be added, will be suitable for hospital purposes, the proposal necessarily involves a consideration of the relative positions of the main structures and their out-houses, and the condition of the general surroundings, present and prospective.

The total area proposed to be given over is about 11 acres, but from this there must be deducted, as unavailable in its present state, and undesirable, to say the least of it, the blind railway cutting on the west and the low-lying marshy ground on the south. The extent of these two portions is together some 5 acres, and, though both would be valuable acquisitions if filled in and reclaimed to a common level, they cannot, as they now are, be deemed desirable even though drained. Not only are they physically undesirable, but they reduce the available area by nearly one half; indeed, looking at other useless patches, it may be said that out of 11 acres no less than 7 are now unavailable by reason of their condition.

The ground to the east, and in the rear of the main buildings, is also very low-lying; so much so that foot bridges lead to the out-houses. Here, too, it would require to be filled in to a common level.

On the north is a crumbling remnant of what was once Fort George, and the future of this must decide whether or not the hospital is to be in this locality. If the Fort is to be restored, the hospital cannot be placed outside, and immediately under its guns. If it is not to be restored, the air space and the ground space it occupies are, perhaps, the strongest arguments in favour of its removal. Its retention will not only deprive the hospital of the full benefit of the site, but in many ways it is objectionable. Its ruins are necessarily foul, its stables and store-sheds are sources of dirt, and the passage of workpeople to and fro across the hospital frontage would be singularly inopportune and unadvisable.

Here, then, are the more prominent outlying disadvantages immediate and present. On the south the low-lying marshy ground, on the west the blind railway cutting, on the east the low-lying ground between the main buildings and their out-houses, on the north the mass of ruins covering some two acres. These are one and all too serious to be ignored, but they are all of them removable, and if removed there would then be a clear site of some 13 acres.

The prospective surroundings are the proposed terminal goods and passenger stations of the Great Indian Peninsula Railway. The present hospital is rather more than 200 yards from the present station, and the value of the site is fully realised by its having a clear frontage of about half a mile; in fact practically there is nothing in front of it. The proposed buildings will be little more than 100 yards from the proposed station, and to leeward of it. It is impossible to say how far the future railway buildings will be intercepting, but, assuming that most of them will be open sheds, there need be little apprehension about them. More grave objections are the incessant noise of a terminal station a little more than 100 yards to windward, and the dust incident to railway working. It may be said that in London Guy's Hospital is alongside of a far larger station, but in London there can be used double windows and other appliances which in Bombay are inadmissible.

The Boree Bunder night-soil depôt is felt to be a gross and palpable nuisance at the present hospital, and its influence would not be less at the proposed buildings, but this I regard as a minor point, because before long the depôt itself *must* be given up. In the same way the foreshore in Mody Bay is broken and foul, but here again its improvement is a certainty; so beyond noticing these points nothing more need be said about them.

I now come to the buildings themselves; and, speaking in a general way, I would observe that, although the proposed alterations may be the best obtainable under the circumstances, they will fail utterly in making the place suitable for hospital purposes, except for a very limited occupancy. I say this with great reluctance and deference, because it is so directly opposed to General Kennedy's expressed opinion that the arrangements "will be so good, or can be made so good, by a little additional outlay" that they need not be regarded as temporary." If this implies that they are to be permanent, it entirely changes the light in which they should be viewed, for it cannot be urged that hospital accommodation which could be accepted as a matter of temporary expediency would also serve for a permanency.

The present is a notable instance of how a place may have the theoretical qualifications of cubic and floor space and may yet be wanting in the essentials of a fitting hospital. In my opinion the disadvantages enumerated are so fatal a bar to the adoption of the project that it is unnecessary to discuss in detail the minor alterations which suggest themselves. There appears to be a misapprehension as to the scheme having met with the approval of the medical authorities, for I learn from the Surgeon-General and Deputy Surgeon-General that they not only do not approve of it, but condemn it.

(The remainder of this section consists of reports from Surgeon-Major T. G. Hewlett, Acting Sanitary Commissioner, of which the following are abstracts):—

On the 28th May I went to Tanna, as I had heard that cholera had broken out in the town. I made my official inspection of it in company with Dr. Hojel, the Acting Civil Surgeon. Sanitary inspection of Tanna.

On the 20th May Dr. Hojel heard that cholera had broken out in the neighbouring districts, and was anxious to take timely measures to put the town in a proper state of cleanliness; but I regret to notice that his endeavours to get the municipal authority to do their duty did not meet with immediate success, although from the commencement

he had received the cordial aid of Mr. Cumine, the Assistant Collector. Dr. Hojel acknowledges the assistance he received at once from the police authorities, who placed sepoy to watch the principal roads leading to the town, so as to prevent people who might be suffering from cholera, or who were coming from villages known to be infected, from entering the town.

The municipal authorities appear to have taken alarm at the occurrence of these cases, and Dr. Hojel was able, after disinfection of their contents, to have all the drains in the neighbourhood of the two houses cleaned out. He established fires in the neighbourhood, and burnt sulphur and dammer; but he reports that even "the aid of the municipal authorities was, considering the circumstances, given in a most niggardly way."

Up to the date of my visit 18 cases of cholera had occurred, 4 of which—equal to 22·3 per cent. of those attacked—had proved fatal. Three of these deaths had taken place in the house to which the original case was brought. It had been emptied of its inmates before my arrival, and, whilst I was there, instructions were given by Mr. Robertson, the Collector, to remove the tiles from the roof, and to dig up the floors and to pull down and burn the tattie partitions. Such action has always been found effectual in Bombay, where we have learnt from experience that cholera cannot live in plenty of air and light.

The town is situated on the west side of Tanna Creek, and is only a few feet above its level. At the time of the census it had a population of 14,299 persons.

There are 2,086 houses, but in the great majority of them there is no privy attached, as only 406 houses had privies; whilst the occupants of the remaining 1,680 houses, numbering about 11,340 persons, have to go outside their domiciles to obey the calls of nature. There are, I believe, only two public latrines which have been built on the side of the creek, but, as Dr. Hojel truly says, they are so far from the houses that the people will not go to them, and they are therefore practically useless; and, besides, they have been erected far above the low-water line, and would prove a nuisance if much used, as the excreta would be every day exposed for several hours until the tide reached them. The people consequently defæcate in any *sequestered* place they can find, too often in *the streets*, and in house gullies, which are not paved, into which the trap-doors of the house privies open, and on to which the urine, ablution water, and house sullage are allowed to find their way, soaking into the ground or slowly trickling down into cesspools, which are numerous, and which emit the most noxious vapours, and are in many instances in very close proximity to surface wells from which the people draw their drinking-water supply.

There is no regular system of sewerage in Tanna. On each side of the streets are unpaved earth trenches formed on one side by the rubble masonry plinth of the houses and on the other by that of the road-way. These so-called drains have not been laid with any proper gradient, so that whatever sullage finds its way into them will not flow, but remains until pushed along into one of the two outlet drains, which, instead of being continued down the edge of the creek, below low-water mark, end in simple earth trenches, in which I saw sullage festering and bubbling from the escape of sulphuretted hydrogen gas, where it remains until absorbed or dried up. These outlets are in the close vicinity of the town.

The water-supply of Tanna is on a par with the drainage. The people are solely dependent on surface wells and a large tank. I saw people washing their clothes, their persons, cleaning their mouths by taking mouthfuls of water and spitting it back into the tank, whilst others close by were filling mussucks and water lotas which they carried off for domestic use. There was a green scum on the water and on the exposed mud-banks. The wells were nearly all dry, and I was told that into one near the market, which was also close to a drain, a few lotas full of water percolated during the night which was eagerly collected by the people very early in the morning. This well at the time of my visit had no water in it, though I could see that it had been recently removed. The bottoms of most of the other wells that I saw were foul, being full of refuse of all kinds.

That the town has suffered from the abominable state of filth it has been allowed to lie in for so many years may be gathered from a study of the mortuary reports. I find, for example, in the Report of the Sanitary Commissioner for 1873 that in that year the annual death-rate at Tanna was 33·22 per 1,000. It must be remembered that 1873 was a healthy year, and not a single death from cholera was registered during it in the entire Tanna Collectorate, but in the town the fever death-rate attained the very high point of 21·19 per 1,000. In Bombay city during the same year it was 9·31. Again, 4·75 persons per 1,000 died from bowel complaints, whilst in Bombay only 2·42 deaths per 1,000 took place from this cause.

Although I am not in a position to state exactly what the annual income of the town is, yet I believe I am right in saying that the municipal expenditure on sanitation during 1874-75 amounted only to between Rs. 7,000 and Rs. 8,000, whereas during that year they had an income of Rs. 31,000. I think, however, enough has been said to show that there is an urgent necessity for pressure to be brought to bear upon the Municipality to make it do its duty in a more efficient manner.

I have made an inspection of the city of Poona with the view of becoming acquainted with its sanitary condition, and instituting a comparison between its present state and that detailed in Dr. Leith's valuable and well-known report dated 8th October 1863. Sanitary inspection of Poona.

The city is divided into eighteen sections or wards called peth, which vary in size and density of population.

As regards the density of the population, I am enabled to show that the inhabited areas of the city are overcrowded.

The principal water-supply is drawn from a reservoir constructed by the Peishwa among the Katruj Hills, at a distance of about five miles from the city, from which it is brought in by an aqueduct and distributed to nearly every section of it, the exceptions being Ghorpade's peth, part of Shukarwar and part of Vetāl peths, which are of too high a level to admit of its reaching them. Water from Karakwasla Canal has also lately been laid on to part of Shukarwar, Vetāl, Ganj, Bhowani, Nana, and Rastia's peths, and there are also ancient wells, made during native rule by the heads of some of the old families, such as the Chaudri, Rastia, and Nana Furnavis, which are situated at distances varying from 5 to 7 miles outside the city, and from which water is brought into it by means of stone and lime masonry aqueducts. At present the number of pipes laid into private houses is something under 100, but the water is generally distributed by means of dipping cisterns which, besides being objectionable in principle, are of faulty construction, as they have generally a low ledge running round the top, on which the drawers of water rest their chatty pots or iron and copper vessels, the consequence being that much dirty water finds its way back into the cisterns, which being exposed to the air get also fouled by dust and other impurities being blown, and by leaves, flowers, &c., being wantonly thrown into them. I saw several cisterns in which there were these objectionable matters. With the present daily supply there are only 10 gallons per head of population; but in some of the peths, as for example in Bhowani, the supply from the Katruj aqueduct is miserably low, as it is stated that not quite three-quarters of a gallon are available for each individual living in it; but when the Karakwasla water is laid on there will be an ample one, and instead of 900,000 gallons per diem, the quantity, if the population is to have the moderate amount of 20 gallons per head, will be at least doubled.

When the Katruj Bund was made by the Peishwa, means were provided for carrying off the water fouled in domestic use; and though the sewers were not constructed on modern principles, yet one cannot but admire the foresight and prudence that recognised the danger of introducing a large volume of water into the place without providing channels for getting rid of it after it had served its purpose.

Nine peths of the city, viz., those west of the Nagjheri, with a present population of 63,569 persons, were thus provided with sewers, but the remaining nine peths, with a present population of 26,867 persons, are entirely without proper means for carrying off the sullage, which either finds its way through channels cut in the ground into the two nullahs, the Nagjheri and the Manik, or else too frequently remains to soak into the surface near the houses of their inhabitants. Some slight, but very inefficient, means have been taken, since the date of Dr. Leith's report, to improve the flow in these nullahs, and they have been, since the introduction of the Karakwasla water, occasionally flushed with it; but the surface of their beds is so uneven that in many places the water stagnates, and the foul matters in it emit the most offensive smell, which however does not prevent the people living in the vicinity from washing their persons and clothes in it. Cattle, too, are habitually taken down to drink the water in these nullahs. The main sewer, which is laid along the right bank of the river and intercepts the sewerage from the peths adjacent to it, discharges its contents into the river immediately below the old bund, within a few feet of the bank. At the time of my visit to it, a black, semi-consistent sludge of half putrid matter had collected opposite to it, and was floating on the surface of the water close along the bank, extending, I should think, for about 200 yards; I saw, however, persons bathing in the river close to the outlet, and washing their mouths out with the water.

Of the entire population (90,436) only about 63,140 persons have any privies to go to; and the serious question forces itself very earnestly upon me,—Where did the remaining 27,000 persons resort for natural purposes? The answer is not difficult, as from the quantity of night-soil I saw lying about the lanes, the nullahs, the back court-yards, &c., it was evident that the people, having no proper accommodation provided for their wants, had resorted to such places.

The provisions of the Municipal Act regarding the employment of municipal halalcotes have not as yet been enforced in Poona, and the owners of the 7,000 privies are entirely at the mercy of private sweepers, of whom there are estimated to be about 300. The condition of the privies is consequently not one whit improved since Dr. Leith described them; I saw many of them in an indescribable state of filth.

The surface of the roads in the city is well swept, and appears clean; but there is an immense quantity of rubbish lying in the back yards of the houses which is never removed.

As regards the disposal of the sewage in England and on the Continent, the truth of Mr. Ward's axiom—"the rain to the river, the sewage to the soil"—is every day becoming more and more acknowledged. Every year the Army Sanitary Commission, which has done so much for the cause of sanitary reform all over the world, urges that this action should be taken in India. In Poona the natural drainage is excellent; and its advantages in having pure drinking water at hand in unlimited quantity, whilst the present supply from the Katruj Reservoir could be utilized for flushing the sewers, would place it on a par with any city in Europe, before many in England, and before all in India.

The preparation of such a scheme is, of course, beyond my powers and beyond my duty; but I am informed by high authority that it is believed to be practicable, and that there is suitable land available for the purpose. If efficiently supervised, it should prove financially profitable; and, although the first outlay would be heavy, it would, I am confident, be cheaper for the Municipality to raise a loan and carry it out than to sustain, year after year, the dead loss entailed by the maintenance of the large establishments I have above shown to be necessary, to which must be added the cost of breaking up and cleaning the present inefficient drains. I have, from information supplied me by the Secretary, roughly estimated that the annual expenditure on all these operations would come to something like Rs. 89,000.

Sanitary
inspection of
Ahmedabad.

On the 30th June I proceeded to Ahmedabad for the purpose of making an inspection of that city:

A halalcote cess has been imposed in the city, and 450 halalcotes are employed in cleaning the house and *panch* privies, and 59 work at the public necessities. These persons collect wood-ashes from the houses in the town, and apply them through a small trap-door opening on to the street to the night-soil, which falls down on to a chunamed platform placed below the privy seat. No basket or receptacle for the night-soil to fall into is ever used in Ahmedabad.

The surface of the roads is, as a rule, well swept, but within the boundaries of private enclosures there are too often collections of rubbish which are not removed. Ruinous houses also afford a ready site for the collection of filth of all sorts, and open spaces and the lanes in the city are sometimes during the night fouled with night-soil, whilst the sides of the dead walls are used as urinals from which a very offensive odour arises. Until quite lately, as there was no magistrate, the municipal officers were unable to take any action whatever to compel cleanliness on the part of private owners, or to punish offenders against the sanitary clauses of the Act.

The bodies of Hindus are for the most part carried out of the town as far up the river as the ford near the temple of Dudeswar, about a mile above the city, and about $\frac{1}{4}$ mile below the Shahi Bagh, where the railway bridge crosses the river. They are burnt on the sand on the edge of the water, and the ashes are thrown into the running stream. At the same place in the very centre of the dry bed of the river and within 40 yards of the stream, Kolis, Marwaries, and Khumars are in the habit of burying their dead in the sand. The graves are dug for a depth of about 3 feet, and the bodies are said to be not unfrequently scratched out by jackals and other animals. There were about 300 or 400 mounds of sand, each indicating a grave, to be seen at the time of my visit. The bodies of the Shrawak inhabitants of the city are burnt on the bank of the river near the Shahpur Gate, and their ashes are thrown into the stream. Mussulmans are buried in the numerous places of sepulture all round the outside of the town.

I must also notice that there are many objectionable hollows near the city, and the right of excavating the ground below the walls on the north-west side has been sold by

Government to potters ; and, as the hollows thus made afford convenient shelter, the place is used as a public necessary.

There is not a single made drain or sewer in Ahmedabad ; the storm-water runs off through the streets and through four nullahs, and the household refuse water with privy water and urine is allowed to flow into closed pits from the bottom of which the fluid escapes into the surrounding soil. We know that for a mixed population it is safe to assume that 40 oz. of urine are voided per head per diem. Thus in Ahmedabad every day there are produced about 124 tons of urine, equal to 45,260 tons per annum, and this amount contains about 1,855 tons of solid putrescent matter, which during every minute of the day is giving off the deadly gases of decomposition, and which by constant infiltration through the soil finds its way into the water-bearing stratum. In the 2,752 "deep" privies, besides the urine, the night-soil of about 9,200 persons is retained every day at the bottom, so that, at 2·5 oz. per head per day, there must every year be about 235 tons of solid night-soil deposited within the inhabited area of the city.

It will be thus seen how impure the sub-soil has been rendered by the accumulated filth of generations upon generations, the consequence being that the water in the wells throughout the town has become brackish and totally unfit for drinking purposes. The well-water is so bad that it cannot be used for gardens, as flowers watered with it die. I am informed that water drawn from wells situated immediately outside the walls, although much less so, is still brackish, but is drunk by some of the poorer classes, whilst a few hundred yards distant from the city the water in the wells becomes sweet and potable. Such facts are instructive ; and that this contamination of the water-bearing stratum in the town has been going on for centuries may be learnt from the fact that the people have from time immemorial been in the habit of constructing beneath their court-yards reservoirs lined with hydraulic cement, into which the rain-water falling on the roofs during the monsoon is stored for the year's consumption. This is at the present time the principal source of drinking water in the town ; whilst those persons who cannot afford the cost of their construction, or who have not space enough within their enclosures, procure their drinking water from the river. About 40 years ago, I am informed, water-works were constructed at the south-western extremity of the city. The water is raised up to a height of 52 feet on to a tower, is filtered through vegetable charcoal and gravel, and is brought into the heart of the town through an earthen pipe, 8" in diameter, which is enclosed in very thick masonry. It is distributed by means of iron stand pipes, of which there are 16, and from 6 covered masonry reservoirs, on each side of which there are ten brass cocks and on each end 3, so that 26 people can draw water at once. This supply is excessively limited and does not exceed 1 gallon per head of population, and the place whence it is drawn is obviously, from a sanitary point of view, the worst that by any possibility could have been chosen, as it is at the furthest point *below* the town, and the river before reaching it has been polluted in numerous ways.

The registration of births and deaths is conducted under the management of the police, who collect the returns ; and perhaps I may express an opinion that the number of deaths, as far as the city itself is concerned, is as nearly accurate as possible, for at each gate a police sepoy is stationed, and no corpse can pass out of the town without being stopped, while a further check is kept by the secretary, who has informed me that only a very trifling difference exists between the figures he has collected and those furnished by the police.

The different causes of death during the years 1871-74 are shown in the following table, and the rates are compared with that of Bombay for 1874 :—

		Ratio of Deaths per 1,000 of Population.						
		Cholera.	Small-pox.	Fever.	Bowel Complaints.	Injuries.	Other Causes.	All Causes.
1871	- -	—	3·2	29·2	5·1	—	8·58	46·8
1872	- -	—	0·1	27·2	0·7	0·3	15·71	44·0
1873	- -	—	0·04	28·06	1·33	0·33	17·01	46·83
1874	- -	—	0·01	26·33	0·98	0·19	17·89	45·39
Mean, 1871-4	-	—	0·84	27·70	2·27	0·21	14·80	45·76
Bombay, 1874	-	0·03	0·40	8·29	2·49	0·35	11·91	23·48

The above is a most instructive table. The average death-rate from fever is more than three times larger in Ahmedabad than in Bombay, in fact it is more than the Bombay rate from all causes; and the total death-rate is nearly double that of Bombay. It is almost the highest to be found in any town in the Presidency. Can there be any reason, but the persistent neglect of the first principles of sanitation?

I think that ample cause has been shown above why the principal city of Guzerat should no longer be left in its present eminently dangerous state, and I earnestly trust that Government will insist upon immediate steps being taken to improve its sanitary condition.

Sanitary
inspection of
Ahmednug-
gur.

I have to report that, having received a communication from the Collector of Ahmednuggur relative to the establishment of a main drainage scheme in that city, I considered it my duty to proceed to the place, and to make a sanitary inspection of the town with reference to the question on which my opinion had been asked.

It is stated there are 2,000 privies in the town. These are sometimes situated inside the walled enclosure, but are too often built into the wall of the house, and are in these cases cleaned through a trap-door opening on to the public street; whilst, in many instances, the owner of a house has erected a private privy on the ground outside the wall of his house, and between it and the curbstone of the adjacent street. From all these privies, as well as from the bathing-places, urine and ablution water find their way by means of a drain or trench cut in the earth, and sometimes are discharged into the roadside gutter or an absorbent cesspit, or frequently into a small earthen vessel, which soon gets choked up when its liquid contents are thrown over the surface of the compound or road.

The night-soil is collected in the town by 70 municipal halalcores, who mix ashes or earth with it, carry it in covered baskets, and deposit it in a closed iron cart, if there is one near at hand; if not, it is thrown into a wooden box placed during the morning in the public streets, from which the cartmen remove it and convey it to a place about half a mile to the south of the town, where the Municipality rent about 30 acres of ground immediately to the east of the Walki road. It is then deposited in pits 24' long $\times$ 4' broad and $4\frac{1}{2}'$ to 5' deep. This trench is filled in to within about one foot of the surface, when about 10 cart-loads of sweepings are thrown over it, and the earth dug out of the pit is heaped on the top. About 30 cart-loads of night-soil are brought here every day, and generally one pit holds the day's supply. There are on the ground 350 pits, which are left undisturbed for about a year and a half or two years. The contents are then taken out and sold to cultivators. Last year the contents of 60 pits were sold for Rs. 400.

There are about 1,000 head of milch cattle in the town, which are housed in about 80 yards, containing on an average about 12 beasts in each. The stables are necessarily dirty, and the ground is saturated with the urine of these animals, the smell arising from it being very obnoxious. The same remark applies to the tattoo stables.

The water-supply is derived from wells constructed during Mahommedan rule, situated at distances varying from five to six miles from the city, and brought into it by three conduits consisting of earthen pipes laid in masonry, two of which are situated on the north-east near a village called Kapurwadi.

I was much pleased at the general cleanliness of the surface inside the city; in fact, I have never seen greater attention paid to this most important duty. The roads and bye-lanes were well swept, and every privy served by municipal halalcores that I inspected was more than fairly clean. It appeared to me that the Municipality do all in their power to keep the place as clean as the present faulty arrangements permit.

As before stated, the household liquid refuse, including urine, privy ablution water, and water used in bathing or for domestic purposes, either is received into an absorbent cesspit, or is thrown over the surface of the ground, or finds its way into the roadside unmade gutters, where after running for a short distance it is, generally speaking, absorbed. There are in the city about 8 miles of such open roadside gutters, while there are about $3\frac{1}{2}$ miles of covered drains, which are, however, not paved at the bottom. There are four main drains in the town.

The establishment of a main drainage scheme, as desired by the Municipality, is in all respects to be commended, and would prove an inestimable blessing to the town; but there is no map available showing the contour lines of levels in the city, so that the preparation of this should be the first thing undertaken.

Ahmednuggur possesses great natural facilities for sewerage. It is impossible for me to state what would be the cost of any such scheme; but information on this point could be readily ascertained by a competent engineer, and there is no reason why, if it is found too costly to undertake all at once, certain sections of the city should not be sewered independently.

SECTION IV.

SANITARY PROGRESS.

Bombay.

Cantonment
reports.

The general health of the garrison during the year has been fully maintained.

The prevailing diseases have been in the following order: ague 209, diseases of the respiratory system 119, diarrhoea and dysentery 97, rheumatism 79, and syphilis 75. Syphilis of a bad type has been unusually prevalent since the last quarter of the year.

Sixteen deaths have occurred, being one in excess of last year.

The lines of the 20th Regiment Native Infantry have been for the most part rebuilt during the year.

Colaba.

The general health of the troops has been indifferent, more particularly since the month of September, or the end of the rainy season.

The system of conservancy for the troops is very good indeed, and the latrines are always clean and in good order. McDougall's powder is used instead of dry earth, and if more expensive, answers the purpose better.

The latrines for the natives answer very well now.

The Colaba Board of Health have brought to notice that the foreshores on the prongs south and west are defiled daily by the evacuations of 300 lunatics. Also that this establishment, always short of water, and being to windward of the troops, was, during an epidemic therein of cholera, a source of great anxiety.

Poona.

The general health of the troops may be pronounced to have been good, notwithstanding the prevalence of cholera, which attacked the troops at Wanowrie, but which fortunately subsided after a fatal result in ten instances. It is remarkable that the 27th Regiment at Ghorpoorie, though with indifferent health at the time, and consequently more susceptible to the influence of the plague, escaped it altogether.

Malarial fevers and bowel complaints were the prevalent diseases, attributable to climatic causes and local influences.

The water supply from the Kurruckwasla is good, both as to quantity and quality, and will greatly improve when it has undergone the process of filtration, the works for which are nearly completed; but the committee are of opinion that, the canal being open, and passing through or by certain insanitary localities, the water is liable to pollution, while its purity is further endangered by the rapid growth of vegetation on the banks of the canal and surface washings.

The ground near the Cantonment Magistrate's Court, which was being levelled up, has now been turned into a garden, and affords ground for recreation to a large number of residents of all classes.

Kirkee.

Fever was prevalent among the Royal Artillery; 266 cases were treated in 1875, against 158 in 1874, though the average strength during the latter year was much greater than in 1875. Cholera prevailed to a considerable extent over the country surrounding Kirkee. The cantonment remained comparatively free from this disease.

The supply of water for the Artillery was good and abundant. For the Sappers and Miners the only supply since they went to their new lines in June has been that of the river, which, though stated by the Government Analyser in 1874 to be fairly potable, cannot be as good as it should be, as it is subject to all sorts of pollution from men and animals on the banks for a large part of the year. It is almost stagnant just above the place where the men have to draw it; it receives during the rains the drainage of a large field used as a trench latrine by the men, and on the opposite side is a large sand-bank, which was let out to a native for the cultivation of melons, and the manure for which, as the man owned himself, was human excrement from the station cesspits. The station committee promised to stop this in future.

Ahmednuggur.

Health of the European Corps good. The principal admissions have been from ague, simple continued fever, and diarrhoea, none of them attributable to special causes. Two deaths only occurred—one from cholera, the other from apoplexy, caused by exposure to the sun when drunk.

The health of the 13th Regiment Native Infantry was reported good throughout the year.

The water-supply has been ample and good.

Both barrack and hospital accommodation for the European and Native troops has been ample throughout the year.

Conservancy on the dry-earth system has been continued in the European Corps, and contents of latrines removed in carts daily, as also are the urinals and soiled water from bathing-rooms. In the Native Infantry Regiment the tank-cart system is used.

The station is kept clean in every respect.

A cook-house and bath-room have been built at the Lock Hospital for the accommodation of the hospital assistants.

A bathing pavement has been constructed for the use of the low-caste people residing in the Sudder Bazaar.

Extra bathing accommodation has been made for the men of the Native Infantry Regiment located in cantonments.

The conservancy of the town of Bhingar has been thoroughly supervised.

A number of houses have been removed in the Munoodavi Bazaar. The ground is now more open.

Asseerghur.

The health of the troops, European and Native, has been good, and the general sanitary state is as satisfactory, considering the many local deficiencies and drawbacks, as can be expected.

Water-supply still most inadequate and insufficient both as to quality and quantity.

In the latrines and urinals used by both Europeans and Natives dry earth was used, and all were reported clean and in a good sanitary state during the year.

The cleanliness and sanitary condition of the station generally, private compounds, and native bazaars have been satisfactory.

Belgaum.

The health of the European troops has been very good, and there were only 9·85 admissions to 10·18 of the preceding year. Ague was the chief prevailing disease among the men of the Infantry Regiment, and there were 123 admissions under that head. Most of the men, however, had suffered previously from the disease in Sind where they contracted it, so that its prevalence cannot fairly be attributed to the climate of Belgaum.

The water-supply is very satisfactory; the wells are numerous; the water is abundant, found pure and good, uncontaminated, and agreeable in taste. The supply is exclusively from wells.

The conservancy for the European troops has been satisfactory, the dry-earth system being efficiently carried out at the station; and the latrines have been kept in a good sanitary condition by limewashing when required, and by frequent dammering of the pans and urinals.

The accommodation for European troops is ample and good. That for the Native regiments is also very good. There is no such thing as overcrowding either in the lines or hospitals.

Ahmedabad.

Cholera prevailed pretty extensively in the city of Ahmedabad during May, June, July, and August, and this cantonment also suffered to a certain extent. Every possible precaution was taken to prevent its spreading.

Measles appeared in the lines of the 3rd Native Light Infantry in April, and continued till June, attacking adults as well as infants. The total number of cases among the men was 17, of which one proved fatal. Among the women and children of the regiment there were about 200 cases.

The general sanitary condition of the cantonment was good. The station continued to be kept clean.

The defective drainage mentioned in last year's report continues, but an estimate for its improvement has been sanctioned, and the work is about to be commenced. The latrine arrangements in connexion with the European troops have worked satisfactorily.

The water-supply for the troops continues in sufficient quantity, and is of fair quality.

The European Barracks were clean and in good order. A project for new barracks with subsidiary buildings has been sanctioned by Government. Two barracks for the artillery are in progress, and one for the infantry is about to be commenced. A school-room is also in progress. The Artillery Quarter Guard has been completed.

Bhuj.

The health of the troops during the year has been good.

The supply of water is drawn exclusively from wells. It has been sufficient for all purposes, and that obtained from the drinking wells was clear and good.

The trench system of latrines has been continued during the year, and, so far as used, answers well enough; but as a matter of fact the men prefer, when practicable, resorting to the open country, as they do not like the scanty and somewhat dirty accommodation afforded by the trenches when much frequented.

No offensive smell has been observed from the filled-in trenches, and those in use are not at any time so offensive as the old system was apt to be.

The dry-earth system in a modified form has been carried out in the hospital latrine and answered well.

The roads have been kept in a good state of repair and cleanliness. Attention has been paid to promoting the growth of trees; but under hand-watering, and in the face of difficulties connected with soil and atmosphere, their progress is very slow.

Baroda.

The general health of the garrison was good.

There is no overcrowding in either barracks or hospitals. The European troops are quartered in barracks which were previously condemned but have lately been repaired and put in order for their accommodation. New temporary lines have been built for the 9th Native Infantry, at a cost of about Rs. 25,000.

The bund of the Pensionpoora tank has been repaired, and a project for deepening the tank and so storing an enlarged supply of water has now been sanctioned.

Sanction having been obtained to the expenditure of Rs. 342 for the repair of some of the roads in the Sudder Bazaar, the work is about to be carried out by the Public Works Department.

Mhow.

The health of the garrison in its several branches may be judged from the following tabular statement:—

	Ratio per 1,000.	
	1874.	1875.
Royal Horse Artillery:		
Admissions - - -	1,781·30	1,800·62
Deaths - - -	—	6·75
Royal Artillery:		
Admissions - - -	1,790·82	1,063·13
Deaths - - -	12·43	38·40
Hussars:		
Admissions - - -	1,790·75	1,182·92
Deaths - - -	10·01	7·31
Infantry:		
Admissions - - -	1,112·37	1,457·23
Deaths - - -	4·88	29·60

The table shows a slightly improved state of things in the health of the Royal Horse Artillery, and exactly an opposite one in the case of the 2-6th Royal Artillery. With respect to the 3rd Hussars, the table shows a notable improvement in the health of the

corps during 1875 as compared with 1874, when it was very unhealthy from enteric fever. It is hoped that this marked improvement was due in a great measure to the abandonment of all the cavalry wells for drinking water and exclusive use of a rather purer water from the one Library well; also to exclusion from the bed of the nullah of numerous natives who resorted there in the preceding year, and to improvement in the drainage.

The health of the Native regiments was considered generally good.

There was an unusually prolonged outbreak of cholera at Mhow; in ordinary seasons it is over by August.

The drainage of the bazaar, which until 1873 was very defective, has been greatly improved by the new drainage scheme, which has already been finished in the main streets and is in progress throughout the bazaar generally.

The monsoon has been ample, but still the water-supply for this large cantonment is very deficient, and great privation by the bazaar people is felt. There is a talk of a scheme for bunding up a portion of a valley in the hills about six miles from here, and bringing the water into the cantonment by pipes. This, if carried out, will be the only means of meeting the existing very deficient water-supply of Mhow. The Executive Engineer tells me that the scheme is in progress, and plans and estimates are being prepared.

The medical officers report that there has been no overcrowding in either hospital or barracks during the year.

Trees have been planted, drains cut, wells cleaned out, and hollows filled up.

Neemuch.

There have been about one-third less of fever cases this year; the rain-fall was less than last year and commenced nearly a month later. Cholera raged during the monsoon, but the average daily number of sick has been considerably less than last year.

The chief storm-water drain, which still opened into the little river (south-west) *above* the temporary bund, was provided with a new outfall. This had silted up and required further opening out and deepening, which has been done.

Nusseerabad.

The health of the European troops during the past year has been unexceptionally good.

The committee are devoting their earnest consideration to the preservation of the sources of the existing water-supply from risk of pollution or contamination.

The dry-earth system of trenching is carried out with very fair success and will, it is hoped, eventually prove a source of revenue to the cantonment funds. The medical officer of the Native troops remarks that the system does not answer fully in the wet weather. This might be remedied by temporarily opening the permanent latrines of the regiment, and the matter will receive consideration during the approaching monsoon.

The surface drains of the European lines and station have been greatly improved and extended, and there is now an abundant supply of fresh water available in all the European barrack ablution-rooms. Several wells have been dug, and cultivation and the supply of vegetables have been improved thereby.

Mehidpur.

The health of the corps has seriously suffered from malarious influences.

In 1874 the lines were thoroughly drained, and a marked improvement was the result in the comfort and health of the men and families. Since then the system of drainage has been extended to the cantonment generally, but sanction for this work was received too late last year for any benefit to be derived from the plan last monsoon; there is no doubt however that the cantonment will be very much drier in future.

Drainage throughout the cantonment was completed; covered latrines were provided for the men and families during the monsoon months; and jungle was to a considerable extent cleared.

Kurrachee.

The health of the Royal Artillery was indifferent, but that of the 56th Foot and the 2nd Beloochees was fairly good.

During the year the drainage in the Napier lines was very much improved, and is now in good working order.

Hyderabad.

The health of the corps forming the garrison during the year has been good.

The sanitation of the fort and the latrines is under consideration.

A water scheme for supplying the cantonment and town from the Indus is being constructed.

Jacobabad.

Health of garrison unsatisfactory ; percentage of sick to strength 163·3, percentage of mortality to strength, 1·5. Chief cause of mortality, malarious diseases of the respiratory system, caused by vicissitudes of climate and malaria. Health unsatisfactory in all regiments ; families in the same condition. That of the native community indifferent.

Trees and branches have been greatly thinned out to admit of the free circulation of air.

During the past year an embankment has been made to the west of the cantonment. Two canals inside of the Jumabinah bund have been closed. All cultivation inside the Jumali bund to the south of cantonment has been put a stop to. The large Kusmore and Begari embankment has been nearly completed, and owing to the foregoing measures percolation water has greatly disappeared ; the water in the well in the Political Superintendent's bungalow was in October 15 to 18 inches less than at the same period in 1874, a fact showing that, if the floods are kept from Jacobabad, the cantonment will right itself by degrees in another two or three years.

ABSTRACT OF REPORT OF THE CALCUTTA MUNICIPALITY FOR 1875.

(*Mr. Stuart Hogg.*)

Drainage.

In the last Report it was stated that detailed estimates for the completion of Mr. Clark's drainage scheme were under preparation, and that the necessary surveys were being made under the directions of the engineer, Mr. Bradford Leslie.

In May 1875 a report was furnished by Mr. Leslie, with detailed estimates for the completion of the works for the whole town, except a small portion at the extreme north. Mr. Leslie concludes his report with the following remarks: "Calcutta, as must be patent to all who have a knowledge of it, is a most difficult city to improve; buildings have been dropped down, so to speak, in a very peculiar fashion, and without regard to regularity or possible future improvement, and with a scarcity of roads where most wanted; therefore, in laying out the 3rd class sewers, it has been necessary to deal with the materials at hand, and to make the best of them."

On receipt of this report, the Justices applied to Government for a loan of Rs. 3,39,400, which was granted.

The sanction of this loan brought to a termination the borrowing powers of the Justices under Act I. (B.C.) of 1872. However, by the new Municipal Consolidation Act just passed, which will come into force on the 1st July next, the Corporation is empowered, and indeed required, to carry on to completion, from borrowed capital, the drainage works which have for so many years been in the course of construction.

The drainage scheme now in progress provides for 39 miles of brick sewers and 136½ miles of pipe sewers. Of the former 37¾ miles, and of the latter 37 miles, have been completed.

The cost of the drainage works up to date has been about 67 lacs, and, at the present cost of labour and materials, the drainage of the whole town south of Baug Bazaar can be completed by a further expenditure of about 22 lacs.

The following is the Engineer's report on the completed drainage works:—

"The sewers are in a very satisfactory condition, and have received closer attention possibly than will be necessary when the entire town is sewered, and the sewage passes through finer gratings than it has been deemed advisable to provide at present at the junctions of the open ditches. As regards road grit, it will always be necessary to employ manual labour to remove the heavier particles, which cannot be flushed down to the silt-pits, and which should not be permitted to pass through the pumps.

"The 1st and 2nd class sewers of the drainage system having been completed, they now receive the entire sewage and night-soil of the city, though not exactly in the form it could be desired, or in a manner conducing to the effectual working of the sewers. This can only be expected when an augmented water-supply is available, when the pipe sewers are generally introduced, and every public and private privy connected, and the open ditches as far as possible abolished."

Water-supply.

The water-works were designed for the supply of six million gallons daily, or about 13 gallons per head on the population taken at 450,000; and since the works have been started, the Justices have constantly had in view schemes for increasing the supply, and extending the works as much as the means at their disposal would admit of.

In connexion with the unfiltered supply, 25¼ miles of pipes were laid through 33 of the public thoroughfares. This unfiltered supply has of course been of great benefit as tending to diminish the waste of the filtered water, though the want of a more copious supply of filtered water is still much felt. The Justices therefore caused estimates to be prepared for two alternative schemes, viz.: (1) for doubling the filtered supply; (2) extending the unfiltered supply throughout the whole town.

The first scheme is the only really efficient one, but it would involve the construction of works the cost of which would amount to about 24 lacs; and as the debt on account of water-supply works now aggregates Rs. 56,11,000 involving an annual charge of Rs. 3,38,715 on account of interest and sinking fund, the Justices were reluctantly compelled to abandon the idea of doubling the works, as a scheme at present quite beyond the means at their disposal.

The alternative scheme was rejected on the ground that the object to be kept in view was to double the filtered supply, and that, the more money spent on the unfiltered supply, the greater would be the financial difficulty of doubling the filtered supply.

As the supply is most deficient during the rains, owing to the filters becoming clogged, it was decided to apply to Government for permission to construct four new filters at a cost of Rs. 1,45,000, as that would facilitate the delivery of filtered water during the rains, and would at the same time be a step towards doubling the filtered supply.

The Engineer makes the following remarks relative to the waste of water in the town :

" The habitual waste of water by nearly all classes of the community continues almost unabated. There seems to be no sense of mutual responsibility, and each inhabitant appears to aim only at appropriating and wasting as much as possible. * * * *

" The general use of meters cannot be recommended, as, in addition to the prime cost, they are a constant source of expense for repairs, and, if the bulk of the water was to be pumped through meters, the friction to be overcome would reduce the pressure, and add to the cost of pumping."

In the new Municipal Act just passed by the Bengal Legislative Council, many useful checks to the waste of water have been introduced.

The total number of houses now connected with the water-works is 8,970 ; 820 were so connected during the year.

Many applications were received for the extension of the water-pipes through various lanes of the town, but, in consideration of the supply being now deficient, it was not deemed expedient to extend it.

The 75 H.P. engine has worked well throughout the year, and has required no extensive repairs beyond the usual periodical over-haul.

The following is an extract from the report of the Analyst to the Corporation on the quality of the water during 1875 :—

" During the past year the water supply of Calcutta has been in a satisfactory condition.

" A comparison of the quality of the water with that of the previous year has shown that during 1875 the water has been rather purer than usual.

" During 1874 the amounts of saline impurity and of chlorine were considerably in excess of those found in 1875. This is quite what might be expected, when it is remembered that in the former year there was a great deficiency in the rainfall. The amount of organic matter, as measured by the 'total ammonia test,' was almost equal in the two years, and this is satisfactory, for it perhaps might have been feared that with the scarcity of water the amount of organic matter would have increased. The organic matter which is measured by the 'total ammonia test' does not represent the absolute quantity of organic matter present in the water, but it (so far as our present knowledge goes) gives a fairly accurate estimate of the amount of contamination by *animal organic matter* of the water ; the amount of *vegetable* organic matter is not estimated by this test."

The streets have been regularly cleaned, and the refuse deposited on them removed by about 300 carts to the depôts along the Circular Road ; from whence it was removed, as in previous years, to the Salt Water Lake, where it is utilised for raising and reclaiming the embanked square mile acquired by the Justices in 1865. Conservancy.

In 1863, when this Municipality was created, and for some years afterwards, the night-soil was collected by mehters, and at night thrown into the river at a ghat set apart for the purpose. This system, it need hardly be stated, created a fearful nuisance, both along the river bank, and also at night in the streets through which the filth carts passed.

As soon as the new main drainage scheme was sufficiently advanced, the Justices put a stop to the polluting of the river, and caused the filth to be collected from private houses and discharged into the main sewers at depôts specially established for the purpose. As the drainage scheme progressed, the latrines attached to private houses along the sewered streets were connected with the sewers and water laid on. In streets not sewered the filth had to be collected as before stated.

As constant complaints were received of mehters failing to do the work for which they were paid, the Justices organised an establishment for removing filth, and, subject to the payment of certain monthly fees, undertook the work for private parties. This was the origin of the Nuisance Department. The system has, on the whole, worked fairly, but, as the plan was not authorised in the Municipal Acts, it was not possible to organise an establishment for the work on a thoroughly satisfactory basis. Now however, by the new Municipal Act, the Municipality has power to cause the

duties in question to be performed by an establishment under its own control in such districts of the town as it may think proper, and it has also power to levy fees for the work done; all difficulties in the way of perfecting the scheme are, therefore, now removed.

The net profits from filth depôts aggregate the very large sum of Rs. 29,750 for the year. These fees are collected from mehters for the use of the depôts provided by the Municipality, and are regulated by the quantity of filth deposited for discharge in the depôts.

Improvement
of native
villages.

During last year, owing to the remarks made by the Army Sanitary Commission regarding the state of bustees in Calcutta, the Government of Bengal urged prompt measures being adopted by the Justices.

In deference to the wishes of Government, a Special Committee was appointed to inspect and report on a number of bustees. The Lieutenant-Governor also took a direct personal interest in the inquiries which he had set on foot by visiting some of the worst bustees, about which so much has been written, and he is therefore now in a position to judge of the correctness, or otherwise, of the description of their foul state given in the following extract from a report of the Special Committee:—

“ We have inspected the six villages situated in the Northern Division of the town, and regret much to have to report that we found them all in a filthy state, and we have reason to believe that there are other villages in town in an equally bad condition.

“ The villages are all, or nearly all, after one type, consisting of a collection of huts of different sizes, which have been constructed from time to time without any plan or arrangement, generally surrounded by filthy drains, and having only tortuous narrow footpaths for access to the interior; and many of them having slimy stagnant ponds, full of putrid vegetable and animal matter in a state of decomposition. It should also be stated that many villages are intersected by deep public ditches or drains, which receive the drainage and sewage of the surrounding area, and are in a most filthy state. The improvement of these ditches is the proper work of the Municipality.

“ The remedies proposed by both Dr. Tonnerre and Mr. Clark are roads, ventilation, drainage, improved huts, and a better system of conservancy, coupled with the construction of suitable public latrines for the use of all residents in the villages. That these are the radical reforms required is a point on which there is not likely to be much difference of opinion. All these measures should doubtless be carried out, if practicable, but to do so thoroughly would involve the demolition of nearly all existing huts and their reconstruction on a proper and regular plan.

“ The question then arises, who is to pay for this costly reform?

“ According to the present land system in Calcutta, the land on which each village is built belongs to proprietors who lease out plots of land to tenants, and the tenants construct their own huts, according to their own ideas of convenience and comfort; the owners of the land exercising no sort of efficient control over the disposition of the huts.

“ To attempt a system of improved drainage without, in the first instance, remodelling to a certain extent the arrangement of the villages may be in many cases impossible, as not only are the huts indiscriminately scattered over the land, but the area is on no uniform level, some spots being high and others low. Conservancy arrangements of an efficient character are not possible in most villages, owing to the absence of proper roads and latrines.

“ It is therefore obvious that the cost of improving the villages must involve a very large expenditure, and, as the Municipality can hardly be expected to expend any very large amount on improving private property, the owners must bear the chief burden of the cost; as to impose on tenants, who live from hand to mouth, much pecuniary responsibility would simply be impossible. Moreover, it must be borne in mind that the owners of the land have not disconnected themselves from the direct management, and consequent responsibility, of their property; they let out their lands at a very high rate of rent, and must therefore be held responsible for the state in which it is kept. * * * *

“ We consider—

“ 1stly. That owners should provide private roads of reasonable width, say about nine feet, through their villages for the use of their tenants and for conservancy purposes, the proprietary right in the land occupied by the roads remaining with the owner.

“ 2ndly. That these said roads should be cheaply but efficiently drained.

" 3rdly. That all the waste lands, not let to tenants, should, when reasonably practicable, be raised, drained, and brought to a proper level.

" 4thly. That low marshy lands and small stagnant ponds should, when reasonably practicable, be filled up.

" 5thly. That filthy unwholesome tanks should, when reasonably practicable, be filled up or improved.

" 6thly. That the landlords should be made to understand that they are personally responsible for keeping all waste unlet lands in a proper state of cleanliness.

" As regards the tenants, for the present we would merely require that they should collectively, or separately for each household, provide proper latrines for their own use, that they should drain their own private premises into the drains provided by their landlords, and should place in a proper state the land held by them on lease.

* * * *

" We would here notice that, next to the nuisance of waste lands in villages being made use of as latrines, the most fertile source of filth arises from the absence of all arrangements for the keeping of cows and bullocks. The present practice is for the *gowallas* (milkmen) to stable their cattle in huts with mud-floors, and to store the stable manure in the immediate vicinity of the huts. The nuisance caused by this is very great, and can only be met by prohibiting by legislative enactment the keeping of cattle in town, except in buildings duly licensed. It would then devolve on the Municipality to see that only buildings provided with proper drainage arrangements should be used for the keeping of cows.

" The same observations, but in a modified degree, apply to stables for hackney carriages, horses, and ponies; these should also be licensed and brought under strict supervision, as at present many of them are in a very unsatisfactory state."

The new Corporation will have full power to carry out the sanitary reforms so often recommended, but the cost of the reforms required in each bustee will, the Chairman fears, be so great that too much progress must not be expected.

Much progress will never be made unless the executive authorities are fortunate enough to secure the co-operation of the leading owners of property. Baboo Soobuldas Mullick, a wealthy landowner of the city, has made a beginning by undertaking to remodel his Mirzapore bustee according to a plan furnished from this office. At an expenditure of about Rs. 7,000, he has constructed metalled roads of reasonable width through the bustee, and he has also provided good surface-drains on the sides of the roads, and now the framework for the construction of a good bustee is ready. But much more remains to be done, as the huts have to be arranged with some sort of regularity; latrines have also to be constructed, and the low lands filled up. The works of improvement in the Mirzapore bustee have now long been at a standstill, owing to the property being under partition, but it is to be hoped that Baboo Soobuldas Mullick will fully accomplish his purpose, so that the municipal authorities may have one bustee in town to point to as fulfilling their wishes in all sanitary details.

Most persons will admit that it would be conducive to the interests of the public if all markets belonged to the Municipality and were under its direct control. However, to carry out this plan would involve such a large capital expenditure, which would have to be raised by loan, that the plan can only be carried out, if at all, by degrees. Public markets.

A step towards attaining this end has been taken by the establishment of a first-class slaughter-house for the whole town, as also by the acquisition of the chief market in the town, viz., the Dhurumtollah Bazaar, and the construction of a fine spacious new market.

The slaughter-houses cost the town Rs. 2,28,308; they were completed in 1870, but it was not until 1872, after much trouble and expense, that they were placed on their present satisfactory footing. The Health Officer is responsible for the immediate control of the slaughter-houses, and it is his duty to see that only wholesome meat is supplied from them to the markets in town.

It is alleged by some persons that the establishment of the Municipal Market has been followed by a considerable general rise of the price of supplies, especially meat and fish. The Chairman is unable to accept the accuracy of this statement; but even if it were correct, the result is in no wise owing to the action of the Municipality, as the rents levied are not in excess of those charged in the old Dhurumtollah Market. It is true that during the first quarter the supply of mutton was dear, and not up to the mark, owing to the late famine in Behar, as nearly the whole of the sheep sent to Calcutta for public consumption came from that province. With that exception the supply of every article of food has, on the whole, been abundant and good throughout the year.

Health of
Calcutta.

The following is an extract from Dr. Tonnerre's Health Report for 1875:—

“ During the year under review 15,072 persons died in Calcutta, against 12,651 in the year preceding. The death-rate, therefore, to a total population of 447,601 as

“ per census of 1872, amounted to 33·6 per 1,000.
“ Deaths are ascribable to the under-mentioned classes of diseases as shown against each:—

		Deaths.		Ratio per cent. of Deaths to Population.	
		1874.	1875.	1874.	1875.
From Zymotic diseases	- - -	8,384	10,386	1·87	2·32
„ Constitutional ditto	- - -	486	580	0·10	0·12
„ Local ditto	- - -	2,002	2,093	0·44	0·46
„ Developmental ditto	- - -	697	804	0·15	0·18
Violence	- - -	179	190	0·03	0·04
Diseases not specified	- - -	903	1,019	0·20	0·23

“ The bulk of the mortality from zymotic diseases resulted from the specific causes shown in the annexed statement in the order of their virulence:—

	Deaths.	Ratio per 1,000 of Deaths to Population.
Fevers - - - - -	5,444	12·16
Cholera - - - - -	1,726	3·85
Dysentery - - - - -	1,274	2·84
Diarrhœa - - - - -	821	1·83
Small-pox - - - - -	775	1·73

“ The highest number of fatal cases from constitutional diseases occurred from phthisis, viz., 355; under local diseases, the largest number was from spleen disease, or 564; and from developmental diseases, joint diseases, &c., 340.

“ The following table exhibits the total mortality during the decennial period 1866–75 from four of the principal diseases of the zymotic class:—

Diseases.	Number of Deaths during the Decennial Period 1866–1875.	Ratio per cent. of Mortality to Total Population during ditto.	Average Mortality of the Decennial Period.
Fevers - - - - -	44,591	9·96	·99
Cholera - - - - -	24,589	5·49	·54
Dysentery - - - - -	14,536	3·24	·32
Diarrhœa - - - - -	6,891	1·53	·15

“ The mortality in relation to sex was as follows:—

	Deaths.	Population as per Census.	Ratio per cent. of Deaths to Population.
Males - - - - -	8,821	299,857	2·94
Females - - - - -	6,251	147,744	4·23

“ showing a higher proportion of deaths amongst females than amongst males.

“ The highest number of deaths from fevers, dysentery, diarrhœa, cholera, and small-pox occurred in the Northern Division of the town, viz., 7,403, against 2,637 in the Southern.

“ Fevers prevailed with the greatest virulence in December, as in the year preceding, a mortality of 19·07 per 1,000 of population having occurred during that month; the next highest death-rate took place in November. There was a rise in the rate of mortality from August of the past year.

“Dysentery was most fatal in December, and so was diarrhoea; and they were at the lowest in May.

“Cholera was also most virulent in November, causing a mortality of 19·75 per 1,000 of population; the next highest death-rate from the disease occurred in April; and it was at its lowest figure in July.

“From small-pox the highest number of deaths, 243, occurred in March, *i.e.*, 6·52 per 1,000 of population; the next highest was in June, when 162 persons succumbed to it. It gradually subsided, till it entirely disappeared in December.

“With the exception of small-pox, nearly all diseases stood at their highest in November and December, and the lowest in May and June, which months and also July are invariably the most healthy during the year.”

That the death-rate should have been as high as 33·6 per 1,000 cannot be accounted for by any known causes. It must, however, be borne in mind that from the composition of the town population Calcutta, in respect to its aggregate mortality, is not comparable with the cities of other countries. Here we have a great number of migratory classes, and what proportion those migratory classes bear to the settled classes cannot be accurately ascertained, but doubtless it is large. It is well known that among the migratory class the first thought in illness is to hasten away to their homes, and that from this there arises an effect on the vital statistics of the place much the same as that of invaliding on the death-rate of the Army; owing to the above causes, and to the uncertain movements of the migratory classes, a comparison of the death-rate of different years forms the basis of no sound conclusions. But remembering the special conditions of the population of this town, the mortuary figures become more serious, as they represent a death-rate which must be most largely derived from one section of the people, *viz.*, the fixed residents.

During the last 10 years Calcutta has made rapid strides in sanitary reforms, but it must not be lost sight of that, whilst to the casual observer the chief streets of this city are provided with good drainage arrangements, and have a supply of pure water laid along them, and represent generally a tidy and well cared-for appearance, yet, if an inquisitive enquirer did but leave the public thoroughfares, he would at once be introduced into the home life of the natives, would be brought face to face with the great sanitary reform question of the day, *viz.*, improvement of the native villages, and would be convinced of the urgent need of wide-spread change if human life is not to continue to be sacrificed to the neglect of common cleanliness.

ABSTRACT OF REPORT OF THE MADRAS MUNICIPALITY FOR 1875-6.

(*Mr. L. R. Burrows.*)

Drainage.

One of the chief causes of complaint during the year was the mode of cleaning the drains. The removal of slush is attended with a very powerful stench, which is not perceptible so long as the slush is undisturbed. "It is a choice between two evils, and in cleaning the drains and removing the slush the lesser evil has undoubtedly been chosen. The prevalence of this nuisance is entirely due to the bad form and the ruinous condition of the drains in general.

The work of flushing the drains has been carried on throughout the year with good effect. A great improvement was brought about in the large open drain which traverses Triplicane from the Grand Mosque to the Wallajah Road, by repairing the floor and side walls and connecting it with the water mains. From being a source of danger and a constant offence to the neighbourhood, it has been rendered efficient as a drain and inoffensive. So long as the quantity of water used for washing and other domestic purposes continues to be so limited, the house drainage received into the street gutters, impregnated as it is to so large an extent with urine, will necessarily be of an offensive character, and flushing must be carried on as extensively as possible. But the full benefit of flushing is obtained only where the gutters are of good construction and in good repair.

The expenditure on new drains was Rs. 1,889, and on repairs to drains Rs. 4,863. Compared with the requirements of the town, the work done during the year was but a drop in the ocean.

The allotment to drains was, as usual, restricted, in the expectation that the new drainage scheme would shortly be put in hand. It will not be out of place here to review the history of the new drainage project, and to mark the position in which it stood at the close of the year.

During the year 1874-75 the Government repeatedly pressed the drainage question on the attention of the Commissioners, and called for a report from them on the general features of any scheme they might be in favour of. Owing to a press of work in connexion with the pipe laying and erection of fountains, there was some delay in the preparation of the report by the Municipality. Meanwhile arrangements were entered into by the Government with Mr. W. Clark, the Engineer who had executed the Calcutta drainage works, to draw up a detailed scheme and estimate for the drainage of Madras. Mr. Clark commenced work towards the close of the year 1874-75, and in April 1875 his report was submitted to Government. On the 14th of May Government passed a Resolution of which the following is an extract:—

"Mr. Clark alludes to Major Tulloch's report as being so full and complete as to the nature of the district to be drained as to dispense with description from him.

"He concurs with Major Tulloch in excluding provision for carrying off rain water from his scheme; in the position of his main drainage out-fall, viz., into the sea two miles north of the Railway Station; and as to the necessity of lifting the sewage at some one point. He has simplified and cheapened the project as a whole, by dealing with Saint Thomé separately. This has enabled him to lay his sewers at much less depth and cost; but it would seem that Saint Thomé will be exposed in a minor degree to the evils inseparable from having two out-fall sewers, one north and one south, similar to the two out-falls of Black Town drain.

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"Mr. Clark proposes to carry off all fluid filth or house-drainage, subsoil water near the surface, and excreta, by a system of main and out-fall sewers of brick or laterite in mortar plastered with cement inside, and laid in concrete, or of concrete blocks cast to the required shapes; and of subsidiary stone-ware drain pipes, laid in concrete; all concentrating at a pumping station near the Elephant Gate Bridge, where a couple of engines of 35 horse power each will lift the discharge of the main sewers a height of 19½ feet, to gravitate through the out-fall sewer into the sea, if no arrangements can be made to utilise the sewage for the irrigation of land. To facilitate such use it is proposed to leave open 1,300 yards in length of the out-fall sewer. Including Rs. 1,08,325 on account of the separate Saint Thomé project, the total cost of the drainage scheme is set down at Rs. 23,48,000, Major Tulloch's estimate having been 33½ lacs.

" His Excellency the Governor in Council cannot but accept the scheme, elaborated during four months' continued devotion to the subject on the spot by an Engineer of Mr. Clark's extensive practical Indian experience, as the most satisfactory solution of the problem of draining Madras that is likely to be attained. He observes, however, that Mr. Clark bases the details of his proposals in a great measure on the local water-supply, and considers that their efficiency is likely to be commensurate with the development of the latter. The Government as well as the Municipality being financially and otherwise interested in its complete development, which is now retarded owing as much to want of engineering knowledge and experience as to lack of funds, it would appear desirable that arrangements should be entered into for placing both the water-supply and drainage in the hands of a competent Engineer-in-Chief, such as Mr. Clark.

" It is remitted to the Financial Department to arrange with the Municipality the manner in which the interest of the loans and the working expenses of both schemes can best be met; the cost of draining the Fort and Black Town only, with pumping station and out-fall complete, and that of the separate Saint Thomé project being raised in the first instance."

In communicating this order to the Municipality the Government desired that the Commissioners would express their views at an early date. The Commissioners referred the matter to a Committee for report, and subsequently adopted a resolution of that Committee which was as follows:—

" Resolved, that this Committee is of opinion that the cost of the maintenance and extension of the water-works should be met from the proceeds of the water rate which it is in contemplation to levy on houses and lands.

" That, considering that the proposed drainage works are more of an imperial than a local character, the Committee assume that the Government will be disposed to incur the greater portion of the cost of the scheme. Any share of the burden which the Municipality may be called upon to defray should be met from the ordinary revenues, if that becomes possible, by the expenditure being spread over a number of years, or by raising, if necessary, a loan, the interest on which should be payable from those revenues."

The orders of Government on this communication from the Commissioners had not been received at the close of the year, but a bill, having for its principal object the increase of the municipal revenue, was introduced in the Legislative Council in February, and was referred to a Select Committee.

Beyond maintaining the works in good order very little has been done in connection with the water-supply of the town. 1,559 yards of pipes were laid down in extension of the municipal pipe-system; ten public fountains and three stand-pipes for drain flushing were erected; in addition to the 140 house connections in existence at the end of 1874-75, 36 new connexions were made during the year; and the large estimate for supplying the Government buildings at Chepauk was successfully executed. Twenty tanks for bathing and washing have been supplied with water from time to time as occasion required. Water-supply.

In June the water at several of the public fountains commenced to give off a very offensive smell when fresh-drawn. It was found that the bad smell disappeared after the water had been exposed a short time to the air. The water received into the pipes was found to be heavily charged with solid matters, including some forms of animal and vegetable life. These latter dying and decomposing in the pipes were doubtless the cause of the bad smell. Whenever there was a good circulation in the pipes, the water was perfectly inoffensive. It was also observed that, the lower the water sank in the Red Hills reservoir, the more it showed a tendency to become offensive in the pipes.

When it becomes necessary to remove the weeds, the water is run off for the purpose, and not re-admitted into the pipes until it has cleared. Great inconvenience is caused to the public by these interruptions, which occur about once in six weeks, but there is no other means of avoiding the introduction of a large quantity of silt into the pipe system. It was discovered during the year that the 42-inch main contained nine inches of silt.

Notwithstanding its imperfections the Red Hills water-supply is an incalculable blessing to the town. The addition of settling tanks, or means of filtration, is needed, and it is hoped that these improvements will shortly be put in hand.

Every effort was made to ensure the proper working of the large force employed in conservancy operations. Notwithstanding a reduction of the supervising staff, the streets Conser-
vancy.

were kept pretty clean, and some improvement was effected in the attendance at the public latrines. The use of road dust as a deodorant has also been introduced with good effect.

Besides 22,597 cartloads of night-soil removed from the public latrines, an enormous quantity is taken away every day in the open rubbish carts. It may be said, in fact, without exaggeration, that the whole of the night-soil from all the private houses in the urban portions of the Municipality is thus removed. The privy in an ordinary Madras house is so constructed that the urine flows off by a gutter into the street drain along with the other slops of the house, and the solid deposit alone remains to be removed by the scavenger, who attends once a day or oftener for that purpose. These house-to-house scavengers are generally at work very early in the morning. Their collections are more or less deodorized by the addition of ashes and dust, and thrown into the first municipal cart which offers itself. This practice has always prevailed in spite of the opposition of the Conservancy Department, and it is obvious that, unless some adequate means for the separate removal of night-soil be provided, any attempt to stop the practice must either prove abortive or mischievous. Any scheme involving a large additional expenditure being out of the question, the following arrangements were decided upon. House scavengers were to be allowed to throw night-soil into the open carts, but the more plentiful use of ashes and dry earth was to be insisted upon. They were also to be allowed to deposit night-soil at any public latrine. By these arrangements the practice of dropping night-soil surreptitiously into dust-bins and other convenient nooks and corners has been checked to a great extent, and a considerable improvement has been effected.

Health of
Madras.

Including 389 still-born, the number of births registered in 1875-6 was 10,473, but there is no doubt that a large number was not reported.

The deaths numbered 14,415; few, if any, deaths escape registration. On a population of 397,552, the death-rate per 1,000 was 36·2. A very large proportion of the deaths occurred amongst children under six years old; the percentage was not less than 41·48, of which 21·65 were boys and 19·83 girls. In order of salubrity June stood first and January last. Taking the deaths for the six years from 1870-71 to 1875-6, January is shown as the unhealthiest month, while April stands first, and June second.

Of the total deaths cholera caused 1,450, or about 10 per cent. Its intensity was as variable as its course was capricious; and its fatal work was accomplished in 238 days. Every precautionary measure suggested by the medical authorities both to ward off the epidemic and to arrest its progress was adopted, but in vain.

Fevers, diarrhœa, and dysentery prevailed throughout the year. The two former contrasted favourably with the previous five years, but dysentery exceeded the average.

ABSTRACT OF REPORT OF THE BOMBAY MUNICIPALITY FOR 1875

(*Mr. W. G. Pedder.*)

The much complained of night-soil depôt at Carnac Bunder has been much altered and greatly improved. The building itself has been rebuilt and roofed so as to diminish the stench and conceal the operations from public view. The pipe to the sea, which was constantly choking, and gave much trouble, has been entirely relaid. And engines and pumps have been erected to flush the depôt with abundant sea-water, thus saving a great waste of Vehar water, and to force all the contents of the tanks, into which the ordure collected in the city is emptied, into the sea under water in only half an hour or forty minutes immediately after ebb tide begins, so that the stuff is carried rapidly out to sea. The new arrangements are now working most successfully; the improvement is immense, and greater than was anticipated, and I think that the present system may now well be permitted to continue till it can be superseded by a complete system of sewerage. Drainage.

A machine for the experimental desiccation of night-soil was ordered from England, but it has not been erected, as a part of the machinery was lost in landing, and we have not yet been able to replace it.

As stated in my last Report, the Pumping Machinery at Love Grove gave a great deal of trouble in 1874. It has since been very thoroughly overhauled and placed under the direct control of the Superintendent of Workshops, and is working satisfactorily. We are now, however, obliged to work the engines and pumps much more nearly up to their full power than was formerly the case, and this involves very heavy expenditure in coals and in repairs. The reason of this is simply that the quantity of sewage to be lifted has very largely increased, and of this increase there are two causes. The greater the quantity of Vehar water used in the town, and the more the sewers are improved or extended, the greater is the quantity of sewage conveyed from the city to Love Grove; and the increase arising from this cause is, of course, highly satisfactory. But, besides this, there can be no doubt that the sea-water at high tides now percolates through the Vellard, and, soaking the lower portion of the Flats, finds its way into the high-level sewer, so that we are really at times pumping against the sea. It is hoped that the new project lately sanctioned for surface drainage of the Flats will remedy this.

The number of connections with the water-works increased by 230, and this increase would doubtless have been larger had it not been for the insufficiency of the Vehar supply. Water-supply.

The only extension of water-supply was to a street in Kamateepoora, and the principal work carried out in connection with the Vehar works was the complete reconstruction of a portion of the Waste Weir, which had fallen out of repair. I am glad to say that there have been no serious bursts of the Vehar Main during the year.

The Vehar Lake was again quite full at the close of the monsoon, and we cannot be too thankful that the Tulsi works have been so far completed as to permit the diversion of the rainfall of the Tulsi Valley into Vehar since 1872. Had this not been done, as the lake was not nearly full at the end of the rains of 1871, it would by this time have been half empty, pressure would have been very bad, and great part of the city would have been entirely unable to obtain Vehar water. As it is, complaints of scarcity of water have been and are loud and almost universal, and will doubtless increase till the Tulsi water can be brought direct into the city.

No progress was made during the year with the Tulsi works, the main dam having been raised to its full height, and it being impossible to go on with the rest of the work till the question of the manner in which the project should be completed was decided. I am glad to be able to add that this is now the case. After long and careful discussion, Mr. Walton's original designs for the work have been fully approved by the Government of Bombay and the Government of India: the latter Government has agreed to advance the necessary funds on very liberal terms, which have been accepted by the Corporation; the work will now be pushed on as rapidly as possible; and I hope there is a chance that it will be completed, and the Tulsi water brought into the city, by the end of the hot weather of 1878.

The long delay and vigorous criticism of a project finally accepted without modification has caused a loss of time which cannot but be regretted, as it has delayed by at least a year the much needed improvement of the water-supply; but, on the other hand, the advantage has been gained that the Corporation and the public will be fully convinced that the project adopted is a thoroughly sound one.

Public
markets.

The new markets at Mazagon have for many years been promised to the inhabitants of that quarter, and will be a great convenience to them. They were nearly finished during the year, and will now be opened almost immediately. They consist of three separate markets—for vegetables and fruit, &c., for mutton and fish, and for beef. They are very well built, convenient, and ornamental. The Corporation will this year be asked to sanction a sum to complete them by the addition of proper latrines, as at the Crawford Market, and by enclosing and laying out the municipal ground on which they stand. I have no doubt that they will be fully occupied and will prove popular, and hope that they will be remunerative to the Municipality.

Town im-
provements.

Among other new works may be mentioned the construction or reconstruction of three important sewers, of three new or improved roads, and of seven municipal buildings.

In 58 localities the streets have been widened by the addition of 1,788 square yards of land.

The roads have been kept in very fair order throughout the year at a diminished cost, the area repaired having been about 790,000 square yards against 765,000 last year, and the cost Rs. 2,49,000 against Rs. 2,65,000 in 1874. The cost includes the construction of a number of footways, and also the reconstruction of a large portion of the Parell Road.

Health of
Bombay.

Last year I pointed out that the Health Department had done more work at a smaller cost than ever before; a still higher degree of efficiency has been attained in 1875.

The year was not a healthy one. The death-rate rose from 24·04 per 1,000 in 1874 to 29·07 in 1875. It must, however, be remembered that in all probability the population, partly from the extension of manufactories and partly from the exceptional cause of the Prince's visit, was a good deal larger, on an average, in 1875 than in 1874, and that the increase in the death-rate is therefore in fact apparent only. That there was a real increase in the death-rate, however, though probably not so large a one as appears, is shown by the unusual number of deaths from cholera and measles, which unfortunately visited the city in an epidemic form. These diseases carried off 2,333 people, or six times as many as in the previous year.

Until 1875 Bombay had been free from cholera in an epidemic form for several years, and the number of sporadic cases had greatly diminished each year of the preceding three. We cannot expect perpetual immunity, and the outbreak of 1875 was a serious one, especially as it was not local, but extended with great violence all over Western India. But it is satisfactory to notice that, notwithstanding this, the deaths from cholera in Bombay were only 847, or nearly one-third less than the average annual mortality from cholera (1,220) in the ten years 1862–1872. I think it is due in no small measure to the vigorous efforts of the Health Department in stamping out the disease that so formidable an epidemic caused a mortality comparatively so small.

ABSTRACT OF REPORT OF THE HEALTH OFFICER OF BOMBAY FOR 1875.

(*Surgeon T. S. Weir.*)

There has been a great increase in the efficiency of the Health Department, and the amount of work accomplished is much in excess of that of former years. Indications of greater activity and usefulness are perceptible in every branch of the establishment. The tests which should be applied at the end of the year to the Health Department, and by which its efficiency should be judged, are the amount of night-soil and garbage collected and removed, and the extent of drains opened and cleaned. Sanitary work.

The greatest quantity of night-soil ever collected by the Health Department was collected in 1875, viz., 65,915·3 tons, equal to 180·5 tons a day. While the amount collected cannot much exceed 180 tons a day, it ought never to fall much below it. The total weight of garbage and refuse collected amounted to 118,407 tons. 166·8 miles of covered drains were opened and cleaned. Conservancy.

For the purpose of conservancy there were, on an average, every day at work 2,481 men and women. This is an immense establishment, scattered all over the city; and unless a constant and personal supervision were exercised over every branch of the establishment, and firm discipline maintained, the department would soon become disorganised and fall to pieces. The only punishment which I can inflict on those who are lazy, careless, or negligent is a fine or dismissal. And although I am extremely reluctant to reduce the small pay the bigarries and halalcores receive, still, in the public interest and in the interest of the department, I have had to inflict a great many fines. The total amount of fines recovered from the establishment amounted to Rs. 4,074. The amount seems large, but it ought to be remembered that the work which the Health Department has to do is of such importance that any systematic or repeated neglect in its performance would seriously injure and endanger the health and welfare of the community.

While 4,924 notices were issued, in only 3,342 cases was it necessary to proceed to the extremity of serving summonses. I have always been opposed to the dragging of people into the police courts for trifling and unimportant offences. I believe that there is nothing that tends to cast more discredit on sanitation, or to bring sanitary efforts into greater ridicule and contempt, than the indiscriminate prosecution of people for petty offences which affect in no way the public health. But while I am opposed to prosecutions for slight offences, on the other hand I think that there are certain violations of sanitary rules—such as the building of privies inside houses, or the buildings of rooms over privies—which should be very severely punished, and in the prosecution of which no effort should be spared to bring the delinquent to punishment, and no attempt to spare him should be in any way countenanced. Sanitary prosecutions.

The question as to whether the flats should be a swamp or a garden has been finally settled. At a meeting of the Town Council held on the 7th May 1875 it was resolved: “That the Council consider that the proposal of the Municipal Commissioner and Health Officer for the gradual reclamation of the flats with town-sweepings, with due sanitary precautions as now adopted, instead of transporting the sweepings by railway to Coorla, would be an important sanitary improvement, and they approve the same generally.” Disposal of town-sweepings.

The night-soil pipe from the Carnac Bunder dépôt, which was getting continually choked and gave so much trouble in the previous year, became so blocked in May that the night-soil would not flow through it. The obstruction was so great that it could not be removed with the assistance of the steam fire-engine. There was no other resource left but to take up the pipe, which was done. When the night-soil pipe was examined, it was found that more than half the sectional area of the greater portion of the pipe was filled with sand and dirt, and that the pipe itself was out of gradient. The causes of the obstruction in the pipe were now evident. The obstructions in the outlet pipe are generally due to the sand in the night-soil sticking to the sides of the pipe when the night-soil is flowing slowly; and if any deposit occurs, other deposits Sewerage.

quickly collect around it, and it is extremely difficult to overcome the obstruction caused by deposits of night-soil and sand glued together. The settling of the night-soil in the tanks also often leads to stoppages in the pipe. The sand sinks to the bottom and gets glued into masses, which are slowly washed into the night-soil pipe and stick there. Of course if the pipe is out of gradient the night-soil is still more likely to clog it.

The quicker discharge of the night-soil by the pumping of it into the sea will have the effect of abating the nuisance at the Carnac Bunder, and of lessening the chance of stoppages occurring in the pipe. Nevertheless our whole system of disposing of the night-soil of this city is a false one. If it was not possible to utilize the night-soil, then it ought never to have been separated from its natural carriers, the urine and waste water. To incur the expense, trouble, and nuisance of carting the pressed fœcal matter to the Carnac Bunder merely to cast it into the sea is monstrous and opposed to all common sense. The pipe is now being relaid, and in the meantime the night-soil is discharged through the Port Trust drain. The night-soil depôt is to be domed over, and a steam fire-engine to pump the night-soil through the pipe has arrived. Salt water will be used to flush the pipe, and consequently less Vehar water will be required at the depôt.

The drainage of most of the island is so defective that steps to improve it cannot much longer be deferred.

The European inhabitants of Bombay can scarcely form any adequate idea of the sufferings the people in the town endure from the halalcore system, and of the disgusting nuisances that are nakedly exposed to their view every day. Early in the morning, long before the light of day has arisen, they are disturbed by the cries of the sweepers and the rattle of the filth-carts. Picture to yourself the life of a Hindu gentleman in the heart of the city. Disturbed in the early morning, long before sunrise, by the sweepers at work, he gets up and goes to the verandah in front of his house to breathe the cool and refreshing air of the morning; but even that comfort is denied him, for he is driven from the verandah by the sweepers passing to and fro in front of his dwelling, and the horrid odours that taint the morning breeze. From the gullies on either side shoot in and out mehters and mehtranees busy at their ghastly work. And perhaps even the end of his verandah may be fouled by the basket of the unholy and vile bhungy. He may remonstrate, he may threaten, but the sweeper cares not, for he knows too well that the kind-hearted and too merciful Settia will never report him. Such are the scenes that go on every morning in most of the streets in the capital of India, and I would ask, Would Europeans submit to this system? To a stranger passing through our streets the narrow and grimy channels filled with a foul and stagnant mire,—the passing to and fro of wretched and degraded beings carrying on their heads and in their hands baskets of human ordure, and whose clothes and persons exhale a pestiferous odour and reek with the products of their noisome occupation,—offer food for reflection, if not amazement. That a city which advances pretensions to be the first in India should have so long submitted to such intolerable and loathsome nuisances is incredible. It can only be explained on the supposition that, never having known anything better, the people wish for no change, desire no amelioration of their lot, and care not to be freed from nuisances which every hour of the day interfere with their comfort and hamper their enjoyment of life. I am therefore opposed—until the city is more amply supplied with water, and a new system of sewers constructed—to the admission of night-soil directly into the sewers from the houses; and I am convinced that, did the masses of the people once realize that the sweepers could be dispensed with, they would never allow them near their houses again.

From time to time different schemes having for their object the improvement of the drainage and the disposal of the night-soil have been brought to the notice of the public, and they have been discussed at great length, and severely criticized in all their bearings. But these schemes have never advanced beyond the region of discussion. The drainage and sewage scheme that has secured most favour as well as attention, and which has been prepared with the greatest care, is Mr. Pedder's. Mr. Pedder has had, in the compilation of his scheme, the great advantage of being able to impartially consider the other schemes that have been advanced, to select what in them was good, and to exclude what was bad.

Mr. Pedder proposes that—

- (1) The sewage and storm water be separated.
- (2) The storm water be removed by gravitation.
- (3) Major Tulloch's system of street and house sewerage by pipe drains leading into four main branch sewers be adopted as far as Bellasis Bridge.
- (4) Night-soil be removed as now from the privies by hand; but, instead of being carried in carts to the Carnac Bunder, that it be emptied into the sewers at different central collecting depôts.

- (5) From Bellasis Bridge the main sewer be carried across the Flats to a spot on the foreshore about half a mile north of the Love Grove pumping-station, and to the west of Worlee Hill.
- (6) The sewage be pumped up to a dépôt on the side of the Worlee Hill and defæcated ; the effluent water to be either pumped into the sea, or to be used for irrigation ; the solid matter to be utilized.

It is generally granted that the separation of the storm water from the sewage is necessary in Bombay. Owing to the heavy rainfall, sewers to be sufficiently large to carry off the greatest rainfall and at the same time to carry sewage would require to be, according to Major Tulloch, forty times as large as they need be for sewage only, and they would not have to act to their full capacity except, on an average, once in six months ; supposing, then, that sewers were built large enough to carry both sewage and storm water, the consequence would be that in the dry season the sewage would scarcely flow at all, and in the monsoon the volume of sewage would be so great that the pumps would not be able to lift it. But it is well known and recognised that, so long as sewage is rapidly removed and not allowed to stagnate, the danger of gases being generated is reduced to a minimum ; it is, therefore, in order that the flow of the sewage may be retarded as little as possible, and that the chances of sewer gases being formed may be rendered highly remote, and that the pumps may be able to work in the monsoon, that it is advisable in Bombay to have sewers sufficiently large to carry only sewage.

It is proposed to remove the storm water by the existing drains, the Fort and Elphinstone quarter to be drained in the direction of their fall into the harbour, and Girgaum and Sonapore into Back Bay. The sluices at Dharavee, Worlee, and Love Grove are to be widened, in order to facilitate the exit of water from the rest of the island in the monsoon.

The widening of the sluices at Dharavee, Worlee, and Love Grove will be a most important sanitary step, and there is every reason to believe that it will contribute in no small degree to diminish the amount and alter the type of fever prevalent in this city. Dr. Cook has drawn particular attention to the necessity, on sanitary grounds, of a wider outlet being provided for the surface drainage.

The Flats possess most of the conditions generally believed to favour the production of malaria :—

- (1) The soil is moist, and periodically flooded.
- (2) The soil contains a large quantity of organic matter.
- (3) The surface of the ground is below mean sea-level.
- (4) The soil is stiff, clayey, and more or less impervious to air.

To take away the moisture is to remove one important factor in the list.

Mr. Pedder adopts Major Tulloch's system of branch sewers and pipes, but proposes to adopt in addition a system of house connections designed by Mr. Walton, Executive Engineer, which I shall now give a short description of.

Leading from the *nanees*, cook-rooms, and privies are pipes called down-takes, which break off about nine inches above the top of catch-basins ; leading from these catch-basins are pipes which will run horizontally along the sides of the houses, and which will discharge into open cast-iron tanks, fitted with diaphragms, at the entrance to the gullies ; these tanks communicate with the street sewers by means of earthenware pipes, which will be both trapped and syphoned ; between the down-take pipe and catch-basin, and also between the catch-pipe and iron tank, there is an air-space, so that ventilation is provided for not only by two air-spaces, but, besides, the pipe leading to the drain is trapped and syphoned. Therefore, sewer gases, before they could find their way from the sewers into the houses, would have to pass through, not only a syphon-trapped pipe, but also two air-chambers. With these provisions it seems to me impossible that sewer gases could ever gain admission to the houses through the pipes. To put it shortly. The house connections which Mr. Pedder proposes to adopt, and which I have now described, are easily cleaned, difficult to put out of order, and moreover so ventilated that they cannot possibly be the carriers of sewer air from the sewers to the houses ; and if they are adopted, the sewage and sullage will be discharged through a series of well-ventilated pipes, instead of being allowed to trickle along the sweepers' gullies to taint the air, and to soak into the earth to foul the well-water.

This system of house connections is the first and greatest advance made towards scientific sanitation in Bombay. For more than two years I have watched the system at work in Sonapore. The improvement which it has effected in that neighbourhood has been as marked as it has been remarkable. There is but one fault which I have to

find with it, and that is, that I think the catch-pipes instead of being closed should be open along the top. To modify the house connections I have just described so as to enable them to carry night-soil is not an impossibility. Mr. Walton has given the question much attention, and he assures me that he has designed a system of house connections, based on the same principles, to carry night-soil.

The present system of collecting the night-soil by hand will be continued. The night-soil will be carried to dépôts, but there, instead of its being pitched into carts and sent to the Carnac Bunder, it will be directly put into the sewers. The dépôts are to be connected with the sewers. There are nine now, and the number will be increased to sixteen. The dépôts will be domed over. They will be ventilated by shafts 30 feet high or upwards. The erection of small furnaces over the hoppers into which the night-soil will be emptied is also contemplated.

It will be observed that the points at which the night-soil will be emptied into the sewers will be away from dwellings, and in the open air. Therefore any exhalations that may be given off from the night-soil, or any gases that may come from the sewers, will be conducted directly into the open air. The objections that are urged against the admission of night-soil direct into sewers from houses cannot possibly be applied to the emptying of night-soil into sewers at dépôts such as I have described; for these dépôts will not be connected with dwellings, they will be in the open with air all around them. That the dépôts will be a nuisance is beside the question. There are nine dépôts now; but these dépôts, so called, are merely enclosed spaces into which, and over which, people passing by can see. Moreover, nothing whatever has been attempted in the way of mitigating the offensiveness of the existing night-soil dépôts. It is now proposed to substitute for these rudely devised rallying-places for the sweepers domed over and well ventilated dépôts, or, in other words, to substitute for dépôts that are a nuisance dépôts which will be neither an eyesore nor a nuisance. The sewers will be ventilated by manholes at intervals of two hundred yards. Over the manholes will be charcoal trays. The ventilation of the sewers will be on the most approved principles, and will leave little to be desired in that direction. I cannot conceive greater precautions than those provided in Mr. Pedder's scheme to render the pollution of the air of dwellings by sewer air impossible.

Mr. Pedder proposes to carry the sewage to a point about half a mile north of the present pumping-station, and to pump it up to a dépôt on the western side of the Worlee Hill. There the sewage is to be defæcated. The effluent water is either to be pumped into the sea or to be used for irrigation. It is proposed to utilize the solid matter. As I have said, the outfall is to be on the west side of the Worlee Hill; there will, therefore, be between the dépôt and the city the Worlee Hill, which rises to nearly a hundred feet. The side of the hill on which the outfall will be projects as a sort of tongue into the sea. Four objections have been raised to the Worlee outfall, which I may shortly state as follows:—

- (1.) That it is to the windward of the town, and will therefore taint the sea-breeze.
- (2.) That, if the sewage is pumped into the sea at Worlee, it will be driven back on the foreshore, where it will form beds of festering, decomposing sewage slush.
- (3.) That it will be a nuisance as offensive to the neighbourhood as it will be dangerous to the public health.
- (4.) That, if the effluent water is pumped into the sea, a valuable fertilizing agent will be lost; and that, even if it was contemplated utilizing the sewage, there is no land on which it could be utilized.

It is true that the outfall will be in a quarter from which the wind sets towards the town for more than fifty days every year. No doubt, objection may be taken to this, and if a site for the outfall could be found from which the wind would never set towards the town I should prefer it. But where can such a site be found?

As regards the second objection, the sewage is not likely to collect along the coast, for, although sewage has been pumped from the Love Grove station into the sea for many years, yet it is a much-vexed question whether any has ever been deposited on the foreshore. I have repeatedly examined the foreshore with reference to this question, and I have no hesitation in saying that the rocks south of the Love Grove outfall are as clean as those to the northward. That offensive smells come at times from the foreshore I do not deny, but that they are due to festering sewage on the foreshore I entirely deny.

The third objection is more specious. As to the nuisance the Worlee outfall will cause, it is true that an action was brought and gained against the Municipality on

account of the Love Grove pumping-station by a neighbouring householder, but that only one action was filed is, I conceive, the best proof that the nuisance was not general. I have never believed that the Love Grove outfall is as great a nuisance as it is generally represented to be. And it is only a reasonable inference that, if the Love Grove outfall has not injured the health of the city, a better situated and more isolated outfall will not.

Lastly, as to the utilization of the sewage. Sewage irrigation is more likely to be successful, both from a sanitary and financial point of view, on this side of India than in England. The advantages on our side are many. But, on the other hand, there are some disadvantages, more particularly near Bombay, which must not be overlooked. Although I am an advocate for the utilization of the sewage on land, and although I believe that sewage irrigation, if conducted on proper principles and with care, will pay, still I cannot overlook the fact that there are very great difficulties to be met and overcome before it can be carried out successfully anywhere near Bombay. The two great difficulties to be surmounted with regard to sewage irrigation near Bombay are the low-lying position of the land, and the heavy monsoon rains. Sewage irrigation has been spoken of in Bombay as if all that was necessary was to run sewage, no matter how great the volume, over any land, even on to a salt marsh, and crops would spring up, and the problem how to dispose successfully of the sewage of this city would thus be solved. But experience has taught us that irrigation of any kind, unless conducted with great judgment and care, will not pay, and that to discharge immense volumes of sewage or water on to any low-lying undrained ground is to swamp it, to create a nuisance, and to injure the public health. Any farmer knows that too much water is as bad as too little for his land. The land of this island is not favourably situated for irrigation. Its low-lying position enhances immensely the difficulty. In the first place the area to be irrigated must be raised, and thoroughly under-drained, so as to secure for the sewage a fall; and if any quantity of sewage was run on to the ground, it would be necessary, in order to prevent the soil from becoming waterlogged, to resort to the expense of pumping to carry off the effluent water. In the rains, anywhere near Bombay, irrigation is out of the question. To irrigate any land would be to swamp it. Under one condition only can sewage irrigation be successful near Bombay, namely, when the cultivator can take as much sewage as he wants, and as much as is good for his ground.

Under such circumstances sewage irrigation can be carried out from the outfall on the Worlee Hill; as much of the sewage as is good for the land will be given to it, and the rest will be run into the ocean. To the north-east and east of the Worlee Hill stretches a great expanse of land which is partly flooded in the monsoon, and during the dry season, for want of water, is left uncultivated. There are no dwellings on it, and but few places of habitation near. On this land sewage irrigation could be conducted under comparatively favourable conditions. It will here be objected that sewage irrigation so near the town would create a nuisance, if it did not endanger the public health. But to these objections I would reply that sewage irrigation has been practised, and is now being carried out, much nearer to the thickly inhabited parts of the town, and as it were in the heart of the city, without causing a nuisance. I have never received complaints regarding the fields irrigated with sewage in Bombay, and if they had caused any nuisance it would have been speedily brought to my notice. We may, I think, safely conclude that, if sewage irrigation is practised so close to the centre of population as the race-course, and does not create a nuisance or affect the health of those living near it, it will neither be a nuisance nor be attended with risk to the public health at a spot much further off.

It has been proposed to carry the sewage to, and to utilize it on a portion of, the salt marsh at Coorla, which had been shut off from the sea by an embankment. If this marsh was filled in and made sweet first, and if afterwards it was irrigated with the proper quantity of sewage, it would be highly productive. But to discharge sewage on to it before it had been filled in would be to convert it merely into a cesspool. Again, suppose that it had been reclaimed with sweepings. Land reclaimed with sweepings requires to be opened up and exposed to the atmosphere for some time, and to be thoroughly drained, before sewage can be run on to it; and even after all that had been done, so boggy is ground reclaimed with sweepings that no large amount of sewage could be used without swamping and flooding it. In the monsoon what is to be done with the sewage, supposing that it was carried to Coorla? It cannot be used on the land. Is it to be discharged into the harbour? It is absurd to institute any comparison between the land which it has been proposed to irrigate with sewage at Coorla and the plain to the east and north-east of Worlee to which I propose to apply the sewage. One is a salt marsh, the other is a firm, comparatively sweet soil.

The outfall at Worlee has these great advantages over every other outfall that has been proposed, that the sea is just behind it; as much of the sewage as is wanted for irrigation can be supplied, and what is not wanted can be pumped into the sea. While I yield to no one in a desire to preserve the sea-breeze from being tainted, and while I am fully alive to the importance of having a pure and plentiful supply of water, I fail to see that any of the schemes that have been proposed for the disposal of the night-soil and sewage of this city are not open to as grave objections on the score of pollution of the sea-breeze as Mr. Pedder's, and I am, moreover, convinced that none hold out such prospects for the successful utilization of the sewage as Mr. Pedder's scheme.

Water-supply. Notwithstanding that our water is not what it might be, we may congratulate ourselves that we have a much purer supply than Madras. The Red Hills water, to judge from the analysis, must be a villainous supply. The Calcutta water, however, is delivered in a much purer state than the Vehar water.

Milch cattle stables. Although the milch cattle stables have been very much improved within the last five years, they are not what I would wish them to be. They are better ventilated, and perhaps a little less overcrowded, and they are certainly much cleaner than they were two years ago. As stated in my last Report, the prosecution of the owners of the milch cattle has done comparatively little good, for it is impossible for them, with the means at their disposal, to comply with strict sanitary regulations.

Visit of the Prince of Wales. The visit of the Prince of Wales put to a severe test the resources and organization of the Health Department. Notwithstanding the magnitude and importance of the occasion, I had every confidence in the officers and men of the department, and the expectations which I formed of them were fully realized. The results of our labours more than surpassed my most sanguine anticipations.

Health of Bombay. Although the health of Bombay in 1875 was not so good as in either of the previous two years, the mortality was less than in 1872. The year 1875 appears to have been a season of unhealthiness in most parts of India. Bombay, however, fared better than either of the sister Presidency towns.

Exclusive of still-born, 18,734 deaths were registered. In the previous year, which was an unusually healthy season, only 15,496 were recorded. But in 1875 Bombay was visited by an epidemic of measles, and by an outbreak of cholera. These two diseases carried off 2,333 people; had the city escaped them, the mortality would have been only 25.45 per 1,000.

Altogether 1,362 cases of cholera came to my knowledge, and of these 847 terminated fatally.

1,486 deaths were registered from measles, against 351 in the preceding year, and 127 in 1873. The disease gradually increased in intensity and fatality up to March 1875, in which month 362 deaths were registered. In April the deaths fell to 278, in May to 127, and in June they still further declined to 52.

Measles were more fatal between one and two years of age than at any other period of life; 451 deaths among children between one and two years old occurred. The next most fatal period was between seven and twelve months, when 357 deaths were registered.

The number of deaths from fever was less than the number registered in 1874 by 159, and below the average of the previous five years by 787.

The decrease in the mortality from fevers may have been partly due to the prevalence of cholera and measles. I am convinced, however, that fever has not been so prevalent in Bombay of late years as it was formerly, and that the type of fever has also much altered. The reclamation of the foreshore has done much towards this, but the great agencies which have been at work are sanitary measures in the shape of better ventilated and improved dwellings, privies detached from the houses, regular conservancy, widening of streets and freer admission of the breeze into the densely inhabited portions of the city, and the filling in of low-lying places and gradual raising of the surface of the city. The scarcity or prevalence of fevers may be looked on as the measure of the efficiency or inefficiency of our sanitary measures.

There has been a great increase in the number of deaths from phthisis; 2,364 were registered from this cause.

As would be expected in a year in which cholera was prevalent, there has been an increase in the mortality from diarrhoea and dysentery. 876 deaths were referred to the former, 231.3 more than the average of 10 years; and 1,389 to the latter, 502 in

excess of the decennial average. 501 deaths were due to all the other diseases of the digestive system.

The first quarter was the most unhealthy period of the year. The mortality rose to 32·95 per 1,000. The enhanced mortality was chiefly due to the prevalence of measles. Deducting 982 deaths from this cause, the annual death-rate would be equal to 26·85 per 1,000. Fevers were also more than usually fatal, and dysentery was prevalent.

In the second quarter the death-rate fell to 30·6 per 1,000. This diminution in the mortality was due to the decrease in the number of deaths from measles and fever. Cholera was prevalent in this quarter, and became more fatal towards the end of the season.

The mortality underwent a still further decline in the third quarter, and fell to 27·12 per 1,000. The deaths from fever were 421 less than the mean of five years. This diminution in the fatality of fevers is remarkable, considering that cholera was prevalent and 501 deaths were registered from it. This zymotic acquired its maximum of intensity in the first month of the quarter, and gradually fell off towards the end of the season.

The death-rate in the fourth quarter fell to 26·15. Fevers were prevalent in this season, 1,332 deaths being attributed to them, which was, however, 259 less than the mean of five years. Towards the end of the quarter small-pox showed some indications of awakened vitality.

There has been a great improvement in the registration of births this year. The birth-rate was equal to 22·45 per 1,000 of population. Of 13,391 children born living, 6,894 were males and 6,497 females.

APPENDIX.

No. 1.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER with the GOVERNMENT OF INDIA for 1875.

The first section of Dr. Cuningham's Report for 1875 is devoted to the cholera epidemic of that year. As this section has been issued separately, a special Memorandum on it has been sent to the India Office by the Army Sanitary Commission.

Section 2 is devoted to the meteorology of Northern India, a matter of great importance, but not as yet in so forward a state as to enable it to be applied satisfactorily to the solution of sanitary problems.

The 3rd section relates to the sanitary history of the European Army in India; and the 4th section to that of the Native Army in the Bengal Presidency.

The next section, No. 5, gives an account of the sanitary statistics of Bengal Jails. This is followed by the vital statistics of the general population, together with an account (in sections 6, 7, and 8) of the chief diseases and of vaccination.

Sections 9 and 10 are devoted to a brief but important statement of military and civil sanitary works in Bengal Presidency, followed in section 11 by a few general remarks on other matters of sanitary history.

The appendix contains two very important contributions to the history and pathology of Oriental sore and leprosy in India by Dr. Lewis and Dr. Cunningham; and the volume is concluded by the usual annual statistics of European and Native Armies, and of jails in Bengal Presidency, for 1875.

The Report, as a whole, is one of considerable importance to the public service, and on some points it contains more information than the Sanitary Commissioner has been able to give in preceding years.

It is proposed in the following paragraphs to select for remark the more prominent practical points in each section, beginning with the sanitary history of European troops during 1875.

(*European Troops.*)

1. The year under review was marked by a great epidemic of cholera, during which there were 384,421 cholera deaths registered among the civil population, a mortality in all probability considerably under the truth. The civil population furnishing these deaths is not accurately known, but it may be estimated approximately at $182\frac{1}{4}$ millions. The corresponding mortality from cholera among European troops was 194 deaths out of an average strength of 58,409. It is necessary to keep this fact in view in order to account for the increased mortality among British troops during the year. The total number of deaths among British troops was 1,021, equal to a death-rate of 17·48 per 1,000 in and out of hospital in India; deducting the death-rate from cholera (3·32 per 1,000), the rate (including 48 from suicide) would be 14·16 per 1,000; and the actual death-rate from all diseases and accidents incident to the service, excluding suicides, would be exactly 17 per 1,000. If suicides, however, are to be considered as final results of insanity, of which about 80 cases a year are invalided to England, then the 17·48 per 1,000 will represent the total loss from disease and accident of the year.

2. The corresponding death-rates for five previous years have been as follow :

					Ratio per 1,000.
1871	-	-	-	-	17·53
1872	-	-	-	-	24·21 (cholera epidemic).
1873	-	-	-	-	15·30
1874	-	-	-	-	13·58
1875	-	-	-	-	17·48 (cholera epidemic).

The mortality of the epidemic year 1875 was thus nearly 7 per 1,000 less than that of the preceding epidemic year 1872.

3. The number of men sent home for change in 1875 was 1,837, and for discharge 534. The total loss from death and invaliding was thus—

Deaths	-	-	-	-	1,021
Invalids	-	-	-	-	2,371
Together	-	-	-	-	3,392

The comparative results of the last five years are given by Dr. Cuningham in the following abstract :—

Period.	Average Strength.	Ratio per 1,000 Strength.						
		Admissions.	Daily Sick.	Deaths.			Invaliding.	Total Loss.
				Cholera.	All others.	Total.		
1871—1874 -	58,438	1,408	57	2·34	15·31	17·65	41	59
1875 - -	58,409	1,337	56	3·32	14·16	17·48	40	57

It will be seen that in all the elements of efficiency, even including the loss from cholera, the year 1875 shows improvement over the preceding four years average.

4. The next abstract gives the inefficiency statistics of each Presidency separately for 1875 :—

	Average Strength.	Ratio per 1,000 Strength.						
		Admissions.	Daily Sick.	Deaths.			Invaliding.	Total Loss.
				Cholera.	All others.	Total.		
Bengal - -	37,184	1,387	57	3·66	13·66	17·32	39	56
Madras - -	11,041	1,109	56	0·36	14·49	14·85	45	60
Bombay - -	10,184	1,404	53	5·30	15·62	20·92	41	62

This table shows that in each Presidency the increased death-rate was mainly due to cholera ; that except in Bombay the total death-rate was not very high ; that the amount of invaliding was high ; and suggests inquiry into the reasons of this fact.

5. The following were the chief admission causes in each Presidency :—

Ratio per 1,000 strength.

Bengal.	Madras.	Bombay.
1. Malarial fevers - 499	1. Venereal diseases - 208	1. Malarial fevers - 518
2. Venereal diseases - 212	2. Malarial fevers - 196	2. Venereal diseases - 174
3. Wounds and accidents - 94	3. Abscess and ulcer - 96	3. Wounds and accidents - 110
4. Abscess and ulcer - 80	4. Wounds and accidents - 93	4. Abscess and ulcer - 108
5. Respiratory diseases - 79	5. Hepatitis - 71	5. Diarrhœa - 70
6. Diarrhœa - 62	6. Dysentery - 68	6. Respiratory diseases - 69
7. Rheumatism - 59	7. Diarrhœa - 55	7. Rheumatism - 46
8. Hepatitis - 40	8. Respiratory diseases - 44	8. Hepatitis - 40
9. Dysentery - 27	9. Rheumatism - 31	9. Dysentery - 29
10. Eye diseases - 20	10. Eye disease - 14	10. Eye diseases - 25
Total of 10 causes - 1,172	- - - - - 876	- - - - - 1,189
Total of all causes - 1,387	- - - - - 1,109	- - - - - 1,404

There are several obvious practical questions raised by this table of admission-rates. For instance, what are the local, climatic, and personal causes of the greater prevalence of malarial fevers in Bombay and Bengal than in Madras Presidency? Again, with so great a prevalence of venereal diseases (greater in Madras than even malarial fevers), is much good being done by lock hospitals? Should not some inquiry be made into the causes of the following conjoined admission-rates from dysentery and hepatitis?—

Bengal - - - - - 67 per 1,000
 Madras - - - - - 139 "
 Bombay - - - - - 69 "

There must be some reason for the persistent excess of these admissions in Madras.

To show the importance of these questions, it may be sufficient to state the following total admissions from these diseases in 1875 for the Indian Army :—

Fevers (intermittent, remittent, continued) - 26,026
 Venereal disease - 11,978*
 Dysentery and hepatitis - 4,803

6. Table XXI. in the appendix to the Report enables these high fever admission-rates to be localized, as the following examples will show, and hence the ground is already prepared for local investigation.

* This is the number in the tables, but the aggregates of three abstracts at pp. 75 and 76 of this Report give 13,173 admissions in 1875.

Leaving out fractions, the fever admission-rates per 1,000 strength have been as follow :—

Peshawur	-	-	-	-	-	2,622
Meean Meer	-	-	-	-	-	1,489
Bombay	-	-	-	-	-	1,212
Poona and Kirkee	-	-	-	-	-	795
Mhow	-	-	-	-	-	521
Sealkot	-	-	-	-	-	638
Dum Dum	-	-	-	-	-	202
Fort William	-	-	-	-	-	187
Rawul Pindee	-	-	-	-	-	135
Bangalore	-	-	-	-	-	142
Secunderabad	-	-	-	-	-	135
Rangoon	-	-	-	-	-	98
Shahjehanpore	-	-	-	-	-	85

The numbers of troops at each of these stations were sufficient for the comparison instituted between them.

In our Memorandum on Dr. Cuninghame's Report for 1874 attention was called to the high fever admission-rate at Meerut, viz., 1,475 per 1,000. In the Report under consideration the fever-rate at Meerut is given as 839 per 1,000. There have been large drainage works in progress in the district, and it will be important to watch the fever statistics of Meerut in future years.

It may be that this great diminution of fever may be connected with these works, but it is necessary at the same time to state that the fever-rate at Meerut has been less than the present one in previous years. The importance of the Meerut case is that it may be used as a test in future years, in any inquiry into fever causes, such as has been suggested above, and if the fever-rate is permanently reduced by drainage works, as it ought to be, it will point the way to remedial measures for other stations.

7. The next abstract shows the death-rates in each Presidency from ten leading death causes :—

Ratio per 1,000 strength.

Bengal.	Madras.	Bombay.
1. Cholera - - - - 3·66	Hepatitis - - - - 3·17	Cholera - - - - 5·30
2. Apoplexy - - - - 1·91	Heart disease - - - 1·99	Apoplexy - - - - 2·16
3. Enteric fever - - - 1·59	Injuries - - - - 1·99	Hepatitis - - - - 1·77
4. Hepatitis - - - - 1·48	Dysentery - - - - 1·45	Enteric fever - - - 1·77
5. Phthisis pulm. - - - 1·24	Phthisis pulm. - - - 1·27	Phthisis pulm. - - - 1·28
6. Malarial fevers - - - 1·18	Apoplexy - - - - 72	Malarial fevers - - - 1·28
7. Injuries - - - - 1·07	Suicide - - - - 72	Injuries - - - - 1·08
8. Respiratory diseases - - 94	Enteric fever - - - - 63	Heart disease - - - 88
9. Heart disease - - - - 78	Cholera - - - - 36	Dysentery - - - - 88
10. Dysentery - - - - 65	Malarial fevers - - - 36	Respiratory diseases - - 79
Total of 10 causes - 14·50	- - - - 12·66	- - - - 17·19
Total all causes - 17·32	- - - - 14·85	- - - - 20·92

The more important differences between these ratios and those of the preceding year, 1874, are briefly as follow.

In 1874 cholera mortality was scarcely appreciable statistically. In 1875 it heads the list in Bombay and Bengal. In Bombay there is a slight increase of mortality from enteric fever. In Bengal and Madras there is a marked diminution. Hepatitis was the chief death cause in Madras Presidency, as was the case the year before. But, except in Bombay, this disease was less fatal in 1875. A similar comparison holds good as regards dysentery.

There was an increased mortality under the head of malarial fever in all the Presidencies.

In 1875 the death-rate from phthisis pulmonalis was nearly equal in each Presidency, and showed a slight augmentation in Bombay over the corresponding rate of 1874. This fact appears to point anew to the probable existence of latent phthisis in recruits.

8. As is usually the case, there were considerable differences in the health of British troops in different parts of Bengal Presidency.

In Bengal proper, a hotbed of disease, especially during epidemic seasons, and where upwards of 100,000 people died of cholera in 1875, there was not a single admission from cholera among British troops. The admissions from all causes were only 1,047 per 1,000 strength, the daily sick 45, and the mortality 11·63 per 1,000. During the 10 years 1860 to 1869 the annual admissions averaged 1,821 per 1,000, the daily sick 69, and the deaths 29·57 per 1,000. The rates in 1875 would have been even lower had it not been for the unhealthiness of the two batteries of the 11th Brigade, Royal Artillery, at Barrackpore, the causes of which have been discussed by the Commission on other papers. As they stand, the statistics for 1875 are much more favourable than they have ever been, and in no former year have troops entirely escaped cholera as they did during the epidemic of 1875.

9. In the Gangetic Provinces and Oude the year's experience was not so satisfactory. The admission-rate was 1,234 per 1,000, the sick-rate 65, and the death-rate 18·10 per 1,000, of which cholera contributed 5·65 per 1,000. The chief sufferers were at Benares and Lucknow.

But, withal, the rates were favourable when compared with those of the years 1860—1869, during which the admission-rate was 1,614 per 1,000, the daily sick-rate 69, and the death-rate 28·59 per 1,000.

10. In Meerut and Rohilkund the death-rate was 21·62 per 1,000, of which 5·92 was due to cholera.

The admission-rate was 1,323 per 1,000, and the daily sick 54 per 1,000. But even these rates compare favourably with those from 1860 to 1869, which were as follow: admissions 1,576, daily sick 72, deaths 26·61 per 1,000. As already stated, extensive drainage works are proceeding at Meerut, and may be expected to reduce the fever statistics in time to come.

11. In Agra and Central India the rates for the 10 years 1860—1869 were: admissions 2,169, daily sick 74, deaths 38·48 per 1,000. During 1875 they were: admissions 1,241, daily sick 58, deaths 16·71 per 1,000, of which 5·57 per 1,000 were due to cholera.

12. The Punjab showed a high admission-rate as usual, namely, 1,729 per 1,000. The daily sick-rate was 58, and the death-rate, including 2·27 from cholera, was 18·34 per 1,000. For the 10 years 1860—1869 the admission-rate was 1,740, the sick-rate 56, and the death-rate 25·24 per 1,000.

Seeing that 1875 was a cholera-epidemic year, it is right that attention should be directed to the remarkable improvement in health and efficiency which these statistics show to have taken place in Northern India since 1860, when the great improvements in stations of British troops may be said to have been commenced.

13. The hill stations, 11 in number, give an admission-rate of 996 per 1,000, the daily sick were 42, and the deaths 8·31 per 1,000. During the 10 years 1860—1869 the ratios were: admissions 1,096, daily sick 49, and deaths 14·78 per 1,000.

In 1875 there were 9,058 men, 813 women, and 1,690 children at hill stations. And on 1st June 1876, 24·7 per cent. of the Bengal troops were stationed at them.

14. During the hot season of 1875 the average strength at Bengal convalescent depôts was 2,094, among whom 33 died in seven months. The chief death causes were,—

	Deaths.
Cholera - - - - -	9
Enteric fever - - - - -	2
Remittent and continued fever - - - - -	4
Hepatitis - - - - -	7

15. The health statistics of troops in other Indian Governments have been dealt with on separate papers, and do not require further comment, except to call attention to the continued comparative healthiness of Burma stations, at which the admission-rates were 967, the daily sick 43, and the deaths 10·50 per 1,000. At Rangoon, where there is the largest number of troops, there was no cholera, and the fever admission-rate was only 98½ per 1,000. The suggestion has been made on former occasions that probably some part of this favourable result may be due to the raised barrack rooms with free ventilation between the soil and the room floor common in Burma.

16. *Chief Diseases.*—Under this head attention may be directed to the abstract already given, showing the great diversity of prevalence of fever at different stations.

This fact affords a far better ground of proceeding in dealing with the local causes of malarial fever than their average prevalence all over India. It may be, however, noted that, while the admissions from malarial fevers in Northern India were 603 per 1,000 in 1872, and 465 per 1,000 in 1874, the ratio in 1875 was 445 per 1,000.

17. *Enteric Fever.*—In the whole Indian Army there were 166 cases of enteric fever treated, of which 84 proved fatal. The numbers for the preceding year (1874) were 243 cases and 101 deaths, showing in 1875 a large reduction in the amount of this disease.

In the Memorandum of the Commission on Dr. Cunningham's Report for last year attention was called to the question of diagnosis with reference to the alleged frequency of enteric fever in the Indian Army, and it may be useful to introduce here the following abstract of fever deaths during the two years in the whole Indian European Army:—

—	Strength.	Total Deaths.				
		Enteric Fever.	Intermittent Fever.	Remittent Fever.	Continued Fever.	Total Fever Deaths.
1874 - - -	59,308	101	6	32	13	152
1875 - - -	58,409	84	1	38	22	145

The deaths from enteric fever were fewer by 17 in 1875. In the same year the deaths from intermittent fever were 5 fewer. But the remittent fever deaths had increased by 6, and the continued fever deaths by 9, in 1875.

Leaving out the intermittent fever deaths, the case would stand thus:—

Enteric fever - - - - -	17 deaths.
Remittent and continued - - - - -	+ 15 „

The object of these comparisons is not to call the accuracy of the diagnosis in question, but simply to suggest caution in the classification where diagnosis is often very difficult. We may here state that in one Memorandum of the Commission of the present year a statement is given from a report by a Medical Officer, in which he says that at his station enteric fever is merely an aggravated result of malaria. In the preceding abstract there is one satisfactory point, namely, the diminution of the total fever deaths, and it must be hoped that the diminution extends to enteric fever.

The following facts regarding the incidence of enteric fever in 1875 are given by Dr. Cunningham. Out of 108 cases which have been analysed,—

- 80 were in men under 25 years of age;
- 37 were in the first year of Indian service;
- 67 within the first two years;
- 80 within the first three years.

There was, he states, no evidence of importation from England, and no evidence to show that the disease was propagated either directly or indirectly by sick.

Last year the Commission suggested that special local examinations should be made into the sanitary state of stations where enteric fever cases took place, and we are glad to learn from the Report under review that the attention of the authorities in all the three Presidencies has been directed to this very important subject.

In the meantime, a few facts regarding local conditions have been made out which, so far as they go, lead to the conclusion that enteric fever, like everything else, has a cause.

18. *Dum Dum* had 2 cases of enteric fever. Latrine matter is buried in trenches in a water-logged subsoil; "great difficulty in keeping the ordure from spreading over the surface of the "ground" (and, it may be added, from polluting the subsoil water). Conservancy of bazaar of 5,000 people unsatisfactory; nuisances found everywhere in this vicinity.

19. *Lucknow*.—The Medical Officers of the B Battery, A Brigade, Royal Horse Artillery, and 40th Regiment, note no sanitary defects. But Surgeon-Major Shipton, 13th Hussars, reports the floors of barracks where the cases occurred as "very bad, irregular, and full of holes;" "in the rains it is impossible to keep the floors properly dry, and the holes and irregularities "collect dirt and moisture. This is especially the condition in the hospital. Drainage is bad, "could hardly be worse."

This last defect extends, no doubt, more or less over the station. There were no fewer than 11 cases of enteric fever and 4 deaths at this station, out of a strength of 2,342 men.

20. *Moradabad* had a fatal case of enteric fever out of a strength of 202 men. The Medical Officer says that the quarters of the 1st Battalion, 18th Royal Irish, where the case took place, are "totally unfit." It is an old building of faulty construction. "There are in some places "six rows of cots, and never less than four rows. The floors are bad, and ventilation defective. "The wells also are objectionably near the barracks."

21. *Meerut*.—Out of a strength of 1,498 men at this station, there were 5 cases and 3 deaths from enteric fever. The Medical Officer of the A Battery, C Brigade, Royal Horse Artillery, says: "The sanitary conditions of the barracks and their surroundings were, and are still, in a "very unsatisfactory state." This remark refers to conditions arising out of defective drainage, which the Deputy Surgeon-General says is being remedied.

22. There were 6 cases and 2 deaths from enteric fever among 1,096 men at *Sealkot*. The barracks are stated to be in good sanitary condition, but the "surface drainage generally defective." The bath room floor of a sergeant who was attacked "was found saturated with "urine."

23. There was a fatal case of enteric fever among 306 men at *Umritsur* and *Govindghur*. There was nuisance from latrines, and the bazaar was in an insanitary state. At the time the ground was saturated with water from defective drainage, since remedied.

24. *Peshawur*.—The drainage arrangements at this station appear to be very defective. The bath room drainages give rise to offensive odours, and the water from all the bath rooms and from those in the new barracks "is disposed of outside the barracks, and in close proximity, by "soakage." Out of 1,591 men at Peshawur, there were 18 cases and 10 deaths from enteric fever in 1875.

25. Referring to the sanitary reports on enteric fever received from different parts of India, the Commissioner sums up the evidence as follows:—"The only explanation of the facts is to be found in local insanitary conditions, and among these malaria seems to have an important place."

As every case of enteric fever will, it is hoped, be reported, and the local and personal conditions under which it has taken place noted at the same time, we shall, no doubt, obtain a sufficient account of the removable local conditions accompanying this fatal disease.

26. Up to the present time, it appears that the evidence leads to the conclusion that enteric fever in India shows itself frequently in the course of ordinary periodic fever, the result of malaria; that foul dampness arising from dirty undrained subsoil under and around the barracks and hospitals, emanations from latrine matter, and from nuisances generally, as also the use of suspicious water, must be enumerated among removable conditions attending on this disease. And wherever these are found to exist at stations, especially at such as have had cases of this fever, they should be at once dealt with.

27. Allusion has already been made to the influence of age in predisposing to attacks of enteric fever.

The following abstract shows the seasonal prevalence of the disease in the different Presidencies for 1875:—

	Number of Admissions to Hospital.											
	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
Army of Bengal -	6	7	5	15	21	18	4	3	9	7	13	7
" Madras -	4	-	-	4	-	4	3	4	2	-	1	1
" Bombay	2	-	2	7	4	2	1	4	4	-	-	2
Army of India -	12	7	7	26	25	24	8	11	15	7	14	10

Enteric fever appeared at 33 stations of Bengal troops out of 59; at 8 stations of Bombay troops out of 15; and at 9 stations of Madras troops out of 19. Hence, out of 93 stations included in the returns, no fewer than 50 had enteric fever cases. Nothing can show more clearly the extent of the sanitary problem connected with this disease.

28. *Dysentery and Hepatitis*.—As already stated, there were 4,803 admissions from these formidable diseases in 1875, of which 2,089 were due to dysentery, and 2,714 to hepatitis. The former disease was fatal in 49 cases, and the latter in 108 cases. Not much appears to have been done hitherto in elucidating the causes of either disease, or in pointing out practical remedies. Reference must therefore be made to long past experience, which shows the distinct causative relation to these diseases of intemperate habits, chills, especially at night while sleeping in air currents after hot days, want of flannel underclothing, too free use of animal diet, and drinking impure water.

These are all simple enough matters to deal with, at least there is nothing mysterious about them, and we would beg to suggest, as we have done in the case of enteric fever, whether inquiry might not be made at stations where these diseases prevail into the presumed causes enumerated above, and the results included in the annual reports. It appears to be time that more attention should be devoted to these important causes of sickness, mortality, and invaliding, to see whether their frequency may not be diminished.

29. Take again two other diseases, which no doubt have a practical relation to each other in India, viz., *delirium tremens* and *apoplexy*. In 1875, no fewer than 201 soldiers were admitted to hospital suffering under delirium tremens, of whom 8 died. The ratios of frequency of this disease for similar strengths were,—for Bengal 2, Madras 4, Bombay 6; figures which may be taken as approximately showing the relative amount of drunken excesses in each of the three Armies. They are introduced here in order that the attention of those concerned may be again called to the subject.

The other disease, apoplexy, which it is to be feared is a not unfrequent result of drunkenness caused 240 admissions to hospital, and 101 deaths. The proportions of admissions in each Presidency were represented by—Madras 2, Bengal 4, Bombay 6. In Bengal there were 101 admissions in June and July, out of 153, showing the influence of higher temperature. But it is doubtful whether heat alone would have destroyed so many valuable lives from this one disease.

The facts regarding hepatitis, dysentery, delirium tremens, and apoplexy have been reproduced year after year. It may be safely stated that among British soldiers in India they are all more or less connected with dram drinking. These four diseases destroyed 266 soldiers in 1875, a fact which ought not to be accepted simply as of necessity, or as a matter of course, but as indicating an evil to be combated.

30. *Venereal diseases* form another cause of inefficiency, allied with intemperate habits. Their annual prevalence in the Army of India since 1871 has been as follows:—

Admissions per 1,000 strength.				
1871.	1872.	1873.	1874.	1875.
196	179	166	192	205

The total admissions to hospital for syphilis during the last two years has been:—

	Primary.		Secondary.		Total Syphilis.	
	1874.	1875.	1874.	1875.	1874.	1875.
Bengal - - -	2,466	2,696	860	787	3,326	3,483
Madras - - -	917	786	348	428	1,265	1,214
Bombay - - -	662	502	285	273	947	775
Army of India	4,045	3,984	1,493	1,488	5,538	5,472

The strengths differed somewhat in the two years, but the figures show how small an effect lock hospitals have had on syphilis among troops.

The general results of these hospitals up to the present time may be stated in the words of the Sanitary Commissioner with the Government of India, as follows :—

“The stations with lock hospitals have established no decided superiority over those without them.

“Nowhere has any permanent and decided impression been made in this class of diseases.

“In many instances it is almost impossible to say where or when disease was contracted.

“In some cantonments, no doubt, little attempt has been made to attain success, but in others again, where the authorities have been most energetic and careful, little result has attended their efforts.

“It is very disappointing to be obliged to acknowledge that the lock hospitals have failed. . . .

“It is very evident, either that the women who are the real source of evil still escape detection, or—and this is a danger which does not appear to be sufficiently appreciated—that registered women, though to all appearance healthy, are yet capable of propagating disease.”

Whatever explanation may be given of the results, it is certain that no preventive agency can be considered a success under which the admissions to hospital from syphilis, gonorrhoea and their many secondary results, were 13,173 in one year (1875) out of a strength of 59,368 men, and it is not easy to see what hope there is for the future in the face of these facts for consecutive years, and of the statement made in the Report that year by year the working of the protective agencies “has been carefully watched,” and suggestions made for improving the service.

31. *Invaliding.*—In 1875 there were 1,837 men sent home for change, and 534 for discharge.

The total loss from these causes was 40·25 per 1,000 strength. The losses from death and invaliding amounted to 57 per 1,000. In our Memorandum on last year's Report of the Sanitary Commissioner with the Government of India the whole subject was fully discussed, and the necessity shown for reducing the numbers invalided so far as it might be practicable to do so. We also gave a table showing how invalids had been disposed of after arriving in this country for the preceding five years.

We have been enabled by the aid of the Director-General of the Army Medical Department to continue the details down to the end of last year, premising that the numbers in the following table do not correspond with those in Dr. Cuninghame's Report:

Years.	Number embarked in India.	Deaths on the Voyage.	Admitted to Netley.	Transferred thence to Lunatic Asylum.	Admitted direct to Lunatic Asylum.	Died at Netley.	Invalided to Pension, &c.
1875	2,513	26	1,755	10	91	28*	779†
1876	2,446	19	2,144	3	78	24	1,261‡

* Including one lunatic.

† Including 90 lunatics.

‡ Including 79 lunatics.

This table enables the total loss of the Indian Army for 1875 to be deduced as follows :—

Average Indian strength	-	-	-	-	58,409
Deaths in India	-	-	-	-	1,021
“ on voyage	-	-	-	-	26
“ at Netley	-	-	-	-	28
Total deaths	-	-	-	-	1,075
Deaths per 1,000	-	-	-	-	18·4
Discharged invalids	-	-	-	-	779
“ “ per 1,000	-	-	-	-	13·3
Total loss by death and invaliding per 1,000	-	-	-	-	31·7

The corresponding ratio for 1874 was 23·9 per 1,000. The excess in 1875 was due to cholera in India, to 11 more deaths among invalids, and to final discharges of 206 more invalids.

A note appended to the return states that, of invalids shipped in India 2,513 in number,—

50 went direct to Cavalry Depôt.
321 Royal Artillery to Woolwich.
270 to Infantry Depôts.

It is possible, therefore, that the total losses of the year were higher than those in the Netley returns.

It is important to remark that, of the 779 discharges to pension, &c., at Netley, 188 were due to phthisis, 152 to heart disease, none of them peculiarly the results of Indian service; and that, of Indian diseases, liver affections contributed only 36, and general debility 51 discharges. Of the 54 deaths among invalids, 22 arose from phthisis. The facts are sufficient to prove anew how important an element ordinary home diseases are to the efficiency of the Indian Army, and they suggest again the existence of latent diseases of the class among recruits.

32. *Influence of Age and Length of Service on Mortality and Invaliding.*—On this important subject Dr. Cunningham has entered into considerable detail, and his facts are worthy of careful consideration. It can scarcely be said that they contain anything not already known, but the subject is of so much importance that it is necessary to call attention to it from time to time. The main points of comparison, so far as regards the influence of age on mortality, are given in the following abstract :—

Bodies of Men compared.	Ratio of Deaths per 1,000.					
	Under 20	20 to 24	25 to 29	30 to 34	35 to 39	40 and upwards.
Troops in the United Kingdom, 1863—1872	2·97	5·42	6·79	12·53	17·76	21·16
Civil Male Population, England and Wales	7·41	8·42	9·21	10·23	11·63	13·55
Troops serving in India, 1863—1872	9·34	17·41	23·61	32·64	44·31	65·93

This table shows that, irrespective of length of service, Indian climates and conditions of life occasion high and increasing death-rates with increased ages. The next abstract shows the general results of Indian conditions of climate and service on troops :—

		Ratio per 1,000 Strength.						
		Admissions.	Daily Sick.	Total Deaths.	Causes of Death.			
					Enteric Fever.	Apoplexy.	Dysentery.	Hepatitis.
Army generally	- - -	1,307	55	17·25	1·43	1·68	0·87	1·78
Newly arrived Regiments	- - -	1,310	50	24·39	4·71	3·21	1·28	0·86

This table shows that newly arrived troops, irrespective of ages, have a somewhat less sick-rate than the Army generally, due, Dr. Cunningham thinks, to their being as far as possible quartered on arrival at healthy stations, but that they furnish a higher death-rate from enteric fever and other diseases, until possibly the weakest constitutions are cleared off. What, then, are the practical lessons from the whole death and invaliding statistics? Do they not point in the direction, (1) of special selection of recruits rather than sending all kinds and classes to India, (2) of avoiding unhealthy stations for newly arrived regiments, as is done as far as possible at present, (3) as Dr. Cunningham proposes, of sending undeveloped youths to the hills for the hot weather and rains, and bestowing the most careful management on those who remain on the plains? And, we would add, pressing forward with the drainage and other improvements of stations.

Lastly, can nothing be done to check intemperate habits? In 1875 there were 8,926 cases of drunkenness reported in the Bengal Army, 4,683 in the Madras Army, and 4,259 in the Bombay Army. Were there no other disease cause in India, this one and the sun would account for many avoidable casualties.

33. *Women and Children.*—The death-rate among 6,335 women of the Army of India was 25·89 per 1,000, of which cholera occasioned 5·37 per 1,000.

There were 12,359 children, who yielded a death-rate of 69·75 per 1,000, including 5·1 from cholera.

The rates both among women and children were considerably higher than in the two preceding years.

The causes of death among children were mainly diarrhœa, convulsions, anæmia, and dentition, the usual children's diseases, aggravated by Indian climatic conditions. There were seven deaths from enteric fever among women and one among children. Half of the whole children's mortality took place under 18 months of age in 1874. In 1875 nearly half the deaths took place at and under 12 months of age.

The facts show great need of more care and intelligence in rearing children in Indian climates. Some years ago the Army Medical Department issued instructions on this subject, and attention might again be called to their contents.

The comparative immunity of children of British soldiers in India from scarlet fever has often been referred to, and it may be useful to introduce the following statistics for children, all over India, for six years, 1870—1875, in comparison with corresponding statistics for soldiers children at Aldershot for six years, 1859—1864, given in the report of the Army Sanitary Committee on the Aldershot scarlet fever epidemic, leaving out the epidemic months of 1865 :—

		Aggregate No. of Children in 6 years.	Total Deaths of Children in 6 years.	Total Deaths from Scarlet Fever in 6 years.
India :				
1870—1875	- -	69,647	4,979	27
Aldershot :				
1859—1864	- -	9,256	331	51

The following are the ratios deduced from these facts :—

—			Total Mortality per 1,000 Children.	Mortality per 1,000 Children from Scarlet Fever.	Percentage of Scarlet Fever Deaths to Total Deaths.
India	-	-	71·5	0·39	0·54
Aldershot	-	-	35·7	5·51	15·40

It hence appears that, while the mortality from all causes among children was double in India what it was at Aldershot, the ratio of scarlet fever mortality was fourteenfold at Aldershot what it was in India, and the proportion of deaths from scarlet fever to all deaths was $28\frac{1}{2}$ times at Aldershot what it was in India. The class of children was the same in both cases.

It may be added that the deaths from all other "children's epidemics" among the aggregate population, 69,647, of children in India during six years were as follows :—

Small-pox	-	-	14
Measles	-	-	163
Hooping cough	-	-	42
			219

The most fatal disease of the class was hence measles.

34. *Officers.*—In 1875 there were in India 1,721 Officers of the British service, among whom there were 24 deaths, and 1,364 Officers of the Indian service, among whom were 18 deaths. The Indian death-rate in both classes was 13·6 per 1,000. Four of the deaths arose from cholera, and one from enteric fever. During the year there were 704 Officers of both branches on leave beyond sea, among whom there were 17 deaths, a death-rate of 24·1 per 1,000.

It may be useful again to call attention to the comparative death-rates of Officers and men serving at the same stations in India, with the view of pointing out that there must be some assignable reason for the differences :—

—		Death Rates per 1,000 Strength.		
		All causes.	Cholera.	Enteric Fever.
Officers	-	13·6	1·3	0·32
Men	-	17·48	3·32	1·72

(*Native Army of Bengal.*)

35. As the Report on the Bengal Native Army is usually referred separately to the Army Sanitary Commission, it appears to be unnecessary to deal with the statistical points in Dr. Cunningham's Report, which, moreover, contains no account of the stations.

(*Jails in Bengal Presidency.*)

36. In 1875 the average annual strength of prisoners in these jails was 71,414. The admissions to hospital were 942 per 1,000, the daily sick 31 per 1,000, and the death-rate 33·65 per 1,000, of which 2·35 was due to cholera, 12·38 to dysentery and diarrhoea, and 4·20 to fevers. The average death-rate taken over the entire jail population for the years 1864—1873 was 46·09 per 1,000. For 1874 the rate was 39·90 per 1,000, and for 1875, as already stated, 33·65 per 1,000. This at first sight appears to be a satisfactory result, but on turning to the jail statistics we again encounter the anomaly of an apparently moderate, or even declining, general death-rate co-existing with such rates as the following,—Alipore 6 per cent., Baraset $12\frac{1}{4}$ per cent., Rungpore $12\frac{1}{4}$ per cent., Backergunge 12 per cent. Some of the smaller jails give even higher rates than these, such as Julpigoree, which returns a death-rate of $25\frac{1}{2}$ per cent., and Bilaspur, 17 per cent. There cannot be a doubt that rates such as these ought never to be shown by any jail population. Even without cholera the rates are excessive. Dr. Cunningham gives a few facts from the jail reports to show what is their sanitary condition. The most common defect appears to be great overcrowding, damp subsoil, as in the case of Backergunge, with its 12 per cent. death-rate, where, "in consequence of the raised plinths being of earth, the floors are constantly damp, damp ascends the walls to a height of 6 feet during the rains, ventilation is not satisfactory." Scurvy is prevalent in some of the jails, in others the drainage is bad. What appears to be wanted in most of them is an exhaustive inquiry and report on sanitary defects, and the removal of these as soon as possible.

(*Vital Statistics and Chief Diseases of the General Population.*)

37. The practical questions relating to these sections of the Report having been already considered by the Commission on other papers, it appears to be unnecessary to refer to them at present, except to call attention to the fact that in 1875 there were registered throughout India no fewer than 22,428 deaths by wild beasts and snake-bites, and to repeat the suggestion formerly made that better inducements held out for destroying poisonous snakes might possibly lead to considerable reduction of deaths under this head.

(Military Sanitary Works in Bengal Presidency.)

38. During the financial year 1875-76 the sum of 824,208*l.* was expended on works more or less designed to add to the health and comfort of the troops, mostly in the Bengal Presidency. Thirty-three stations are named at which works of various classes, including new barracks and hospitals, water-supply and drainage works, have been carried out.

New barracks have been built at Mooltan, Subathoo, Fyzabad, Darjeeling, and Chukrata.

Existing barracks have been remodelled and improved at Campbellpore, Jullundur, Dugshai, Meerut, Agra, Sitapur, Lucknow, Allahabad, Hazareebagh, Calcutta.

Various kinds of subsidiary accommodation have been provided at several of these stations, and at Peshawur, Rawul Pindie, Gwalior Fortress, Pachmarlai, Morar. Family quarters have been provided or improved at Chungla Gully, Jutogh, Raneekhet, Chukrata, Roorkee, Dinapore, and other stations.

Hospital accommodation has been provided at Ferozepore, Chukrata, and Calcutta.

Water-supply has been extended and improved at Meean Meer, Dalhousy, Umballa, Raneekhet, and Barrackpore.

Drainage and surface improvements are reported from Peshawur, Meean Meer, Morar, Meerut, and Dinapore.

Similar improvements have been carried out at a number of Native stations, and projects are in preparation for drainage and water-supply at several stations of British troops. Plans have also been prepared for pumps and filter beds to be attached to wells at each station.

The dry-earth system of conservancy is found to answer completely when carefully worked, and improved modes of dealing with the saturated earth have been advised for British stations. The trench latrines are in use at Native stations.

An important item of improvement has been brought to the notice of the Sanitary Commissioner, viz., the supervision of villages in the neighbourhood of cantonments.

The necessity for action in this matter was shown in the Report of the Royal Commission on the Sanitary State of the Indian Army in 1863, and detailed instructions for carrying out this duty were given by this Commission in their Suggestions for the Sanitary Improvement of Indian Stations. There are difficulties in the work, arising from its great extent, and perhaps the best way would be to concentrate effort in the first instance on villages and towns immediately adjoining stations, and to extend the work outwards. In this way the most dangerous nuisances would be first dealt with, and the example would facilitate progress.

(Civil Sanitary Works in Bengal Presidency.)

39. The chief points under this head have been noticed by the Commission on the Reports of the Sanitary Commissioners of districts; it is hence unnecessary to recur to them at present, except to state generally that progress is being made all over the country, not so rapidly as could be desired, but, considering the short period of time which has elapsed since these improvements were initiated, the wonder is that so much has been done in the way of improved conservancy, better drainage and water-supply, opening up and improving towns and villages, and the general spread of information and of interest in the subject which these reports show.

40. Under the head of *General Remarks*, Dr. Cuninghame has introduced extracts from 52 cantonment reports, showing the "sanitary defects noted," together with the improvements effected during the year. In forwarding the reports, the Quartermaster-General observes that "all deficiencies and defects brought to notice in them have received full consideration, and that remedial measures are being taken under the orders of His Excellency the Commander-in-Chief." The great defect at many stations is one long ago pointed out, namely, bad surface and subsoil drainage, and until this serious cause of disease is remedied, it will be in vain to look for a diminution of epidemic diseases. The "notes" do not afford all the information required, and Dr. Cuninghame has issued a code of instructions, which, if fully complied with, will go far to supply the deficiencies in the sanitary history of stations which we have more than once pointed out in its reference to cholera.

Lastly. In summing up the results of the Sanitary Commissioner's Report for 1875, the following practical results present themselves:—

1. That, whether tested by comparative death-rates with or without cholera, the report shows steady advance in improved health of British troops at Indian stations.
2. That improved health has accompanied the progress of sanitary works and measures at these stations.
3. That the general adoption of the dry-earth conservancy has enabled the sewage produced at stations to be removed away, without injury, to a distance, and has put a stop to the pollution of the subsoil and water sources at many stations.
4. That the widespread prevalence of enteric fever nevertheless points to the presence of local causes at many stations, probably connected with old conservancy defects, and other sources of foul damp in barracks and hospitals, resulting from want of proper drainage, nuisances in the vicinity, &c., as in the case of Peshawur (where such defects as those stated in the Report ought not to have existed after having been so often brought to notice), and that the inquiries already suggested by the Army Sanitary Commission into the local and personal conditions accompanying every case of enteric fever should be carried out and reported.
5. That the chief inefficiency cause at most stations is malaria and its results, indicating the necessity for surface and subsoil drainage, a fact which is moreover shown by the condition of stations described in the present Report.
6. That the proposed improvements in the water-supply from station wells, by introducing filter beds and pumps, will, when carried into effect, be an important advance towards

protecting and purifying the water sources for the use of troops (*vide* the following note on water filtration, in which a statement of principles it may be useful to keep in view is given).

7. That the proposal to supervise the sanitary condition of villages near stations is one of great importance, but it would be more advantageous to concentrate efforts at improvement on the nearest groups of population, rather than to undertake more work of the kind than can be efficiently done.
8. That intemperate habits are a very serious cause of inefficiency not to be met by sanitary measures, and the Commission desires that the attention of the authorities in India should be again called to the subject, and that some attempt should be made to deal with hepatic and dysenteric diseases, in so far as it may be practicable to diminish their frequency. They would further call attention to the fact that, notwithstanding the existence of lock hospitals and police measures for many years, venereal affections are, next to Indian fevers, the most important causes of admission to hospital in India. Diseases the result of intemperate and immoral habits show no decrease.
9. That the sanitary state of the jail population shows that great improvements are required in the Bengal jails.
10. The Commission would again call attention to the high death-rate (22,428 deaths) from snake-bite and wild animals, and would suggest the expediency of taking measures for preventing this, as far as practicable, by increasing the rewards for destroying poisonous snakes.

(APPENDIX A.)

This Appendix contains the results of a very important inquiry into the pathology and causes of the Delhi sore, which appears to have gone far to settle practically the questions connected with this disease. Many years ago the Army Sanitary Commission advised that a special investigation should be undertaken into the subject at Delhi, and the resulting reports clearly showed that the disease was localised in Delhi, and did not exist outside.

The special causes incident to troops sent into the city, besides the general bad sanitary state of it, were connected with the well water-supply used for drinking and ablution by the troops. Analyses made at the time showed that an ablution well water contained 358 grains of impurity per gallon, of which $65\frac{1}{2}$ grains were organic matter. From some of the wells remains of dead bodies were taken after the mutiny. Troops using purer water away from the polluted subsoil of the city suffered very little, and the result was a recommendation that the sanitary state of Delhi should be improved and Jumna water introduced for use. The whole subject has been exhaustively treated in this Appendix by Drs. Lewis and D. Cunningham, and proof has been adduced to show that the quantity of salts in the water was in all probability the primary cause of the mischief. When bad water was given up and good water used instead, the disease declined, and when the use of bad water was resumed the disease reappeared.

Formerly, in 1864, from 40 to 70 per cent. of European troops were affected, and now, with sanitary improvements and better water, the reporters are able to state: "At the time of our visit to Delhi, in the early part of 1876, Delhi boil was, and had for some time been, 'practically unknown among British troops.'" It still exists among the civil population, although it is diminishing as improvement advances. It is scarcely necessary to dwell on the practical importance of this experience, but up to the present time we have no means of knowing how the water acts in causing the disease. The worst water was that applied direct to the skin in the process of ablution, and the most frequent seats of the sore were the forehead, the cheek, the wrist, the back of the hands and feet, the points of the elbows and knees, and not unfrequently the side of the nose, all subject to friction in the process of ablution. There is nothing new to add to the recommendations formerly made on this subject by the Commission: This new inquiry shows their necessity.

(APPENDIX B.)

by the same investigators, contains a first instalment of an inquiry, partly advised by this Commission, into leprosy in India. It is chiefly of a statistical and topographical nature, and contains a general account also of the nosology of the disease, but the pathological part of the inquiry is still in hand.

The practical conclusions at which the reporters have arrived up to the present time appear to be that compulsory segregation of lepers would be of no use, and that leper asylums "are beyond doubt calculated to do very great good, and deserve all support and encouragement, so long as such support does not relieve the relatives of the diseased from the performance of their duties to the sick."

26th May 1877.

(Note on the Principles of Water Filtration for Indian Stations supplied by Wells.)

As Dr. Cunningham's Report contains proposals for filtering the water-supply of stations, the Commission has thought it might be useful to give, in the form of an appendix to their Memorandum on the Report, the following brief statement of principles bearing on this subject.

1. Wells for supplying drinking and culinary water should be selected after careful examination of the surroundings of the well, to see that there are no sources from which the subsoil water can be polluted by sewage of men or animals.

2. The water should be analysed and its sanitary condition estimated,

3. The selected wells should be capable of yielding the amount of water required.

4. Supposing that these three requirements are found to be favourably fulfilled, the tube of the well should, as a precaution against future risk, be coated outside with a layer of concrete of sufficient thickness, and to such depth as would cut off the immediate subsoil water from the well, leaving the well to be supplied by the deeper water-bearing strata. But if in any case it happens that cesspits have been dug down to water-bearing strata, the only safe course to take is not to use the well.

5. The tube of the well should be raised two or three feet above the ground level, the platform round the well should be concreted or paved, and the ground sloped away from the well, and means provided for draining away all waste water.

6. It is not necessary to arch the well over, but some permanent cover is required to prevent dust or dead leaves from falling into the well.

7. Suppose that these points have been all arranged satisfactorily, the next question refers to the filtration of the water, and, first, it may be found that after taking these precautions no filtration is required. In a good well the best possible filtration is that obtained by means of the natural stratification. Second, all wells in time contract impurities from accidental and unforeseen causes, but the remedy in such cases ought never to be sought by filtration. The well should be examined and cleaned out.

8. When well water will clearly be benefited by filtration, the following principles should be kept in view:—

First, to save outlay and current expenditure, the amount of water filtered should be no more than is required for drinking and cooking, probably 3 gallons per head per day. Ablution and bath water does not require to be filtered, and provision should be made for supplying drinking and cooking water in such a way that the water carriers cannot draw unfiltered water for these purposes. Where wells are the source, it will probably be better to use different wells for the two purposes. This will render it less easy for the carriers to draw unfiltered water for drinking or cooking.

Second, the object of filtering is to remove suspended matter by straining, and to oxidize dissolved organic matter by oxygen supplied by the filtering medium. In performing these functions the filter may become clogged by suspended matter, and the dissolved organic matter may pass through the filter unoxidized, because the amount of water previously passed may have deprived the filtering medium of its available oxygen. Hence it is necessary to provide for removing all impurities deposited in the superficial layer of the material, and to allow the whole filtering medium to be drained of its contained water from time to time, so as to renew its supply of oxygen from the atmosphere.

A filter constructed for downward filtration can be cleansed and aerated with the greatest facility.

9. According to the proposed plans all the water for cooking, drinking, lavatories, and baths, amounting to about 12 gallons per head per day for healthy men, and from 30 to 35 gallons per head for sick, besides water required for horses and for water carts when in use, would have to be pumped and stored, while only 3 gallons per head would require filtration; it is hence evident that a storage tank would be required sufficient to hold a day's supply for the station, or for that division of the station for which each well is set apart.

10. The proposed use of a capstan to raise the water involves machinery which may be necessary for deep wells and large pumps, but not for ordinary hand pumps. In the new dépôt barracks in England water is raised from the well by a small steam engine to a tank placed on some convenient locality or building, from which the water is conducted in pipes for distribution to the barrack buildings. Such an arrangement in India could be combined with means of filtering the quantity required for drinking and cooking, care being taken that unfiltered water was laid on solely to the baths and lavatories.

11. For 1,000 men with 5 per cent. sick, the water required would be as follows:—

	Gallons.
Lavatories and baths, unfiltered	10,000
Drinking and cooking, filtered	3,000
	13,000

The filtering area would have to be increased fourfold if the whole water were filtered.

If the day's supply were to be raised at one pumping, a barrack for 1,000 men would require a storage tank to hold 13,000 gallons for the men alone. If the labour were available twice a day, a tank of half the dimensions would be required. Much also will depend on the rate within a given time at which water is drawn for bath and lavatory purposes.

12. The construction of water tanks and filters (together with a large amount of information on the general question of water-supply) was given in detail in our "Suggestions for the Sanitary Improvement of Indian Stations," to which reference may be made for present purposes.

A properly constructed filter, on the principle shown in Plate VII. of the Suggestions, will filter from $1\frac{1}{2}$ to $3\frac{1}{2}$ gallons per square foot per hour, according as the water contains more or less suspended matter.

At the former rate for a barrack of 1,000 men a filtering surface of 84 square feet for each filter would be required, and at the latter rate a surface of 38 square feet would answer. Allowance, however, would have to be made for the amount of water drawn from the filter within a given time, for this amount might possibly exceed the quantity the filter was capable of passing within the time. It would hence be necessary to take into account the customary manner of supplying the

barracks, hospitals, and cook-houses with water, *i.e.*, the manner of distribution must determine to a certain extent the amount of tank capacity and filtering area to be provided.

The amount of water to be supplied from the storage tank to the filters could easily be regulated by a common ball valve.

13. Suppose that the most economical way of providing pumping power requires that the day's supply be raised within an hour or two, it is obvious that for 1,000 men storage tank capacity would be required for 13,000 gallons, and suppose that the filtered water distribution was to be made within, say, half an hour, in order to save expense, a distributing tank to hold 3,000 gallons would be required for a barrack of 1,000 men. If, as already suggested, the best well were to be used for yielding drinking and cooking water, and an inferior well for supplying the lavatories and baths, the filtering arrangements would be as follow :—

For drinking and cooking water for 1,000 men,—

1. A storage tank of 3,000 gallons capacity.
2. Filters to be used alternately.
3. A storage tank for filtered water to hold 3,000 gallons, and then for the bath and lavatory well simply a storage tank to hold 10,000 gallons.

14. In all cases there should be three filters, each capable of filtering the volume of water required, to allow one for filtering, one for cleansing, and one for oxidation. One filter would be of little use, it would soon become clogged, and the filtration would be stopped. In a recent case this event took place, and the filter was abandoned as useless. It would be a mistake to construct filters under the idea that they are self-acting and require no attention. On the contrary, wherever filters are introduced, provision would have to be made for intelligent superintendence of the apparatus, to keep it in constant working condition. If this precaution be neglected, great risk to health of troops may arise, from the well known experience that, when a filter or a filtering medium becomes foul, the water passing through it is certain to dissolve and carry with it a dangerous amount of organic impurity, in addition to the quantity brought with it from the well.

15. In winter the surface of the sand may probably need to be scraped once in each month, in summer once a week. At each scraping from half an inch to an inch of sand with the deposited mud should be removed from the surface of the filter, and the quantity replaced by clean sand. Twelve inches of sand would allow of six scrapings, taking off 1 inch each time, after which 6 inches of clean sand would have to be added. The dirty sand can be washed clean for future use. If vegetation shows itself on the surface it had better be removed at once.

The bottom drains of each filter should be so arranged as to admit of the freest ventilation when the filter is empty, in order to ensure the complete aëration and oxidation of the filtering media before the filter is again brought into use.

16. If it be considered necessary in any case to ventilate the well itself, a wooden tube should not be used, as it is liable to decay and to become a receptacle for animal or vegetable life ; an iron tube would be better, and it should be carried to a sufficient height above the top of the well to have an air current formed in it by the rarefying action of the sun.

17. The tanks should be regularly cleaned out, and, together with the filters, should be protected from sun heat as far as possible.

18. Filtered water should only be drawn by a water tap, never by dipping. The filtered water tank should be covered and secured, so as to render this hurtful practice impossible.

19. Filtered water should be carried for use in metal pails, never in mussocks, and it should be stored in barracks and cook-houses in covered earthenware vessels, kept scrupulously clean. But for large stations it would be far safer to have the water properly laid on.

(Memorandum on the Report on the Cholera Epidemic of 1875.)

This Report, which forms the first section of the general Report of the Sanitary Commissioner with the Government of India, has been issued separately, and is confined to a discussion of facts regarding the great epidemic of 1875. There are points of a controversial nature raised in the report which scarcely come within the province of the Army Sanitary Commission, except in so far as they may help to forward real practical work. It is not proposed in the following remarks to give any decided opinion on the controverted points at issue, and the object of these remarks will perhaps be best served by stating the facts as a contribution to the Indian Cholera Inquiry, and taking from the experience any points of practical importance that may present themselves.

1. The following abstract given by Dr. Cuninghame shows the cholera mortality all over India for 1875, contrasted with that of 1874 :—

Province.	Population.	Total Deaths from Cholera in 1875.	Total Deaths from Cholera in 1874.
Bengal Proper and Assam	63,787,577	116,606	73,354
North-West Provinces	30,769,056	41,106	6,396
Oude	11,174,785	23,321	68
Punjab	17,487,125	6,246	78
Central Provinces	7,427,608	14,643	14
Berar	2,184,945	22,465	2
British Burma	2,738,358	761	960
Madras and Mysore	30,360,211*	97,051	313
Bombay	18,228,774	47,573	37
Rajpootana, Hyderabad, and Central India	Not known	14,649	4†

* Population of Mysore not known.

† In Western Malwa.

The total cholera deaths amounted to 384,421 in 1875, as contrasted with a mortality of 81,226 during the preceding year 1874.

The table shows that the same variations in intensity existed all over India. The facts are indeed reproduced year after year, and it appears not unwarrantable to deduce from all this past experience that, whatever may be the cause of cholera, its action in districts where it appears periodically is very variable in degree, and that this is a law of cholera, not amenable as yet to any theory; that it must be accepted as a law, the practical result of which is that the immunity of one year or more cannot be accepted as any reason for relaxing our efforts; and that, in the meantime, we must test our success in mitigating the ravages of cholera by comparing death-rates over considerable periods of time. It is satisfactory to know that when such a test is applied it appears to show a falling off in cholera mortality in different districts of India.

2. Just as epidemic deaths vary in numbers year by year, so they vary in numbers in different districts of India. The map attached to the Report shows that the epidemic of 1875 covered nearly the whole of Southern India, where the disease had an apparent relation to the epidemic cholera of Ceylon. The north-east part of Madras Presidency suffered little. The Central Provinces escaped in great part. It covered the whole of Bengal proper, the North-West Provinces, and Oude. The upper Punjab also escaped the disease, which in this province was confined chiefly to the sub-Himalayan districts.

Over the whole of this vast area cholera deaths were registered in the earlier months of 1875. The disease appeared in detached cases in regions where it afterwards became epidemic, except in Bengal, where it passed over in considerable force from the latter months of 1874 to the earlier months of 1875.

Referring to the distribution of cholera, Dr. Cunningham says:—"These areas of prevalence, it is to be observed, are not the areas through which the great highways of traffic lead, nor are the exempted tracts those which are removed from the great lines of communication. Over great part of the country in which cholera was most severe there are no railways, and the roads are often indifferent. Through part of the Central Provinces which escaped one of the great trunk lines of railway, on which there is much and constant traffic, runs. In the Upper Provinces the extension of the disease was not along the high road, but over an area where the means of communication are comparatively difficult and little used."

Facts regarding the same epidemic contained in the reports of Sanitary Commissioners of different Governments show, locally, the absence of relation between traffic movements and the movements of epidemic cholera.

Up to the present time, therefore, this part of the inquiry has resulted in showing that no practical good can be effected by interfering with the internal communications of India with the view of limiting the sphere of epidemic movement or delaying its progress.

3. The present Report contains some very important information regarding the distribution of cholera within the registration districts of India, obtained in conformity with our instructions for the Cholera Inquiry.

The information is given in a tabular form, showing the number of registration districts, the number of these in which cholera appeared, together with number of villages in each district, and the proportion of these which yielded cases of cholera in Bengal proper, Oude, Punjab, Central Provinces, and Berar. The following are the totals of these tables:—

	Registration Circles.		Villages.	
	Total Number.	Number attacked by Cholera.	Total Number.	Number attacked by Cholera.
Bengal Proper	548	466	154,194	17,699
Oude	134	120	24,702	4,210
Punjab	487	162	22,986	797
Central Provinces	189	89	24,257	1,881
Berar	131	98	5,427	2,431
Total	1,489	935	231,566	27,018

The data in this abstract prove that 63 per cent. of the registration districts included in it suffered from cholera in 1875, showing that the disease was extensively diffused over the country; but when the proportion of groups of population attacked is taken into account, it is found that little more than $11\frac{1}{2}$ per cent. of these groups suffered, while $88\frac{1}{2}$ per cent. escaped.

This fact of the comparatively small number of groups of population on which the epidemic falls has been confirmed all over India, and must be received as another ascertained law of cholera diffusion, in reference to which Dr. Cunningham says:—"The popular impression with regard to cholera seems to be that, when once it attacks a district, it spreads from village to village, until all have more or less suffered. But this idea is altogether a mistake. In most of the districts where cholera prevailed, the villages attacked were the exception, and even in those parts where it was most prevalent, and where it beyond all question attained the proportions of a very severe epidemic, many towns and villages escaped."

The same law holds good within the endemic area in Lower Bengal. Thus in Burdwan district, with a population of 2,034,754, there are 5,191 villages, and there were 2,127 cholera deaths in 1875 in 198 of these groups of population. In Hazareebagh district, with a population of 771,875, 270 deaths took place in 38 villages, out of a total of 6,073 villages. In Nuddea district, with a population of 1,812,795, there were 9,948 cholera deaths registered in 1,001

villages, out of a total number of 3,691 villages. Similar facts could be produced in detail all over India, and they appear to point in the direction of another law of cholera, viz., that it attacks and remains in special localities until the force of the epidemic is spent.

4. Up to the present time, we have no account from India of the manner in which cholera comports itself in attacked towns and villages when it is once there. This important point in cholera history has yet to be made out. But in the west it has been observed that in successive cholera epidemics the same houses have been attacked, often in the same order of time, and it has happened that the first cholera case has taken place in the same house in which the first cholera case of the preceding epidemic had appeared. It may be suggested whether the history of cholera might not be advantageously followed up in this direction in a few suitable localities in India.

As this part of the Report is devoted mainly to a history of cholera diffusion among the civil population, there is no information regarding attacked localities and their sanitary condition; points which are left to the local Sanitary Commissioners.

5. Those sections of the Report which refer to cholera in the Army contain much interesting information.

Among British troops the prevalence of cholera during 1875 was as follows:—

	Cases.	Deaths.	Ratio per 1,000.
Bengal - - - -	201	136	3·66
Madras - - - -	7	4	·86
Bombay - - - -	80	54	5·30
Total - - - -	288	194	3·32

Although 1875 was a severe epidemic year, it is satisfactory to learn that the proportionate mortality among British troops serving in Bengal was much less than during previous great epidemics.

The following are the facts as given by the Sanitary Commissioner:—

	Deaths from Cholera per 1,000 Strength.
1861 - - - -	23·73
1867 - - - -	13·84
1869 - - - -	16·46
1872 - - - -	10·66
1875 - - - -	3·66

In any comparison between these figures, they must be accepted as showing a great reduction in the cholera death-rate in the Bengal Army within the last ten years, and the question may fairly be asked whether the reduction is not, in part at least, due to progressive sanitary improvement, especially in barracks, hospitals, water-supply, and conservancy?

The results are of course quite irrespective of the influence of invaliding, and the argument from them is decidedly in favour of pressing forward in the way of improvement. So far as cholera is concerned, the test of improved health must be applied during epidemic years, and if, during a series of these years, the mortality in the British Army from cholera continues to decrease, the conclusion is allowable that sanitary work is telling on the epidemic mortality.

6. Among Native troops in Bengal there were 142 cases and 69 deaths from cholera in 1874.

7. There are notes appended to the Report giving the local details of cholera at 40 different stations in Bengal, the North-West Provinces, Oude, Lower Punjab, and Central India, including information regarding the disease as it showed itself in 37 European and 26 Native corps, besides the outbreak at Simla, &c. Much of the detail relates to the diffusion of cholera, and the connection between attacks among troops and among the adjacent population in relation to the question of contagion. As on other similar occasions, it is proposed not to enter into the discussion, but simply to see whether from the facts themselves any additional rules for guidance can be deduced.

8. There are no additional facts to show the relation of meteorological elements to epidemic cholera, and we must echo Dr. Cunningham's wish that "what peculiar features characterise a cholera epidemic year as contradistinguished from a non-epidemic year, the Meteorological Department of India, which has been recently reorganized, may, it is hoped, in time be able to explain." Hitherto the only observed element of this class, and not always a constant one, has been the co-existence of easterly winds in Northern India with the progress of cholera towards the north-west.

9. Appendix C gives some important information of a terrestrial and local character, namely, the possible relation between attacks of cholera in the vicinity of stations and the disease in the station itself. It is a table showing the number of villages within a radius of 10 miles of 26 stations of British troops, together with the number of these villages which were the seats of cholera. To make such a table complete would require the dates to be appended of the first appearance of cholera within the 10-mile radius, and the date of its appearance within the station. This point, the date of events, was strongly insisted on in our instructions for the Cholera Inquiry.

An instance or two will show the nature of the evidence in this table. Round Sealkot there are 648 villages, of which one was attacked by cholera. There was a single case of cholera among troops. There was no cholera among a Native population of 13,400 in cantonments, and

only two deaths in the city of 25,337 inhabitants. Sitapur has 583 villages within a 10-mile radius, of which 17 were attacked by cholera. There was one fatal case among troops, and another among a cantonment population of 3,675, both in April. The town itself had 41 cholera deaths, of which all, except one in April, took place in and after September.

A few examples, including districts within which some of the chief military stations are situated, will illustrate this point further:—

Stations.	Number of Villages within a Radius of 10 Miles.	Number of these Villages attacked by Cholera in 1875.
Allahabad - - - -	379	23
Cawnpore - - - -	148	12
Lucknow - - - -	246	48
Fyzabad - - - -	229	35
Meerut - - - -	236	24
Delhi - - - -	130	10
Umballa - - - -	139	10
Meean Meer - - - -	224	3
Jullundur - - - -	215	1

The total number of villages within a 10-mile radius of the 26 cantonments amounted to 6,941, and of this number 370, or 5·3 per cent., were attacked by cholera. The proportion of villages within 10 miles of military stations attacked by cholera was thus one half of the proportion of villages attacked in the country generally. Here a question suggests itself, viz., whether villages near military stations have been undergoing more active sanitary improvement than others?

It might be worth while to include this element in any subsequent report. As the case stands, it appears that cholera selected its localities in the vicinity of stations, as it did all over the country, without reference to communications and on local grounds.

10. Connected with this same subject is the very important question of the relation of cholera in villages to the appearance of cholera in cantonments, and whether there is any sufficient evidence to prove importation of the latter?

The facts under this head are contained in reports of Medical Officers attached to 64 corps of British and Native troops, at 41 separate stations, besides the jail at Fyzabad, the central prison at Meerut, and the Thomason College at Roorkee, 67 communities in all. In not one instance is there evidence such as is required by our instructions to show that cholera was due to importation. In one case only was cholera imported (into Agar) by a sepoy, but the imported case was the only one at the station. There are, however, a few instances in which, in the absence of histories and dates, opinions were entertained that the disease might have been imported. The opinions by themselves cannot of course be admitted as evidence, but if opinions are to be admitted, it must be stated that in the great majority of cases there was no apparent ground even to form opinions in favour of importations, for none are given.

Dr. Cuninghame has given an analysis of the facts in the more prominent instances, which may be resumed as follows. At Cawnpore Native servants were supposed to be means of communication, from their presence at a Native festival where cholera broke out, but no dates or facts are given. It is simply an opinion. The actual dates show that the first case of cholera took place in the 35th Regiment, Native Infantry, on March 26th (there were 5 cases in all). The cantonment (52 cases) was attacked next day, March 27th; the 73rd Foot (6 cases), April 2nd. It will be seen that the whole station suffered at the same time.

At Moradabad it was believed that cholera was imported by punka coolies, but there are neither facts nor dates given.

There were three corps at the station, one of which, the 1st Battalion, 18th Foot, had six cases of cholera, the first on September 5th. But on August 26th cholera had broken out in the jail. There was none in cantonments or in the other corps.

At Meerut it was thought that cholera had been imported from a stricken village by work-people employed in the Artillery barracks. There were five corps at the station, besides the cantonment and jail population. The dates of attack were as follow:—

		Total Cases.
Royal Artillery	- First case, 26th August	- 15
15th Hussars	- " " 24th September	- 2
85th Regiment	- " " 11th "	- 1
Jail	- " " 7th "	- 23
Cantonment	- " " 5th "	- 46
City of Meerut	- " death, 14th August	- 80 fatal.

As already stated, there were 24 villages (out of 236) attacked by cholera within 10 miles of Meerut. In the absence of any trace of communication admissible as evidence, it seems justifiable to conclude that the Meerut attack was part of the epidemic, and came under the law of locality already stated. At Dharmasala the fact of the arrival of travellers was assumed as proof of importation, and one of the cases had eaten pork and drunk milk brought by a boy who was taken ill with cholera on the road. This case took place on August 12th, in a soldier of the 81st. There were five cases in this regiment. But cholera actually broke out at the station on July 2nd (1st Goorkha Regiment, 97 cases), and in cantonments (42 cases) on July 3rd. Moreover, in Dharmasala and Kangra, out of 89 villages within 10 miles, 11 were attacked with cholera.

The usual assumption in these and similar cases appears to have been that, without reference to facts, dates, and circumstances, the presence of cholera in a country was a *prima facie* reason

for accounting for its appearance in cantonments by importation. The truth will never be arrived at by this proceeding, and we must again direct attention to the rules laid down for investigating these cases in our instructions for the Indian Cholera Inquiry.

11. It cannot be said that the practical results of experience during the cholera of 1875 are in favour of quarantine, but they are not opposed to the more rigid application of another measure, far more in accordance with what we really do know about cholera, viz., to prevent troops from going into localities where cholera exists. The great danger appears to be in *places*, not in *persons*.

12. This last proposition, so far as persons are concerned, receives a large amount of confirmation from the manner in which cholera restricted its influence within hospital wards to the sick. Dr. Cunningham has abstracted the particulars from Medical Officers' reports for 67 attacked bodies of people, 64 of which were regimental corps.

Amongst these were treated 611 cholera cases, or, including the Simla cases, 894. In 8 cases of 67, attendants were attacked. The following is an abstract of the facts. Among 8 bodies of people, from among whom 220 cases of cholera were treated, 22 attendants were attacked. In several instances the attacks were in members of the same family in attendance on the sick, and in the same locality. The only instance in which the proportion of attendants attacked can be given is in the 1st Goorkha Regiment at Dharmasala. In this instance there were 97 cases of cholera treated. The hospital establishment contained 127 persons, of whom 11 were seized with cholera. But Dr. Cunningham has shown that the proportion of attendants on sick attacked during this severe outbreak was 8.66 per cent., while the proportion of attacks among persons not in contact with sick was 8.01 per cent., nearly the same. Of seven sweepers employed in removing excreta, not one suffered. Of the other attendants, who carefully avoided the excreta, eight were attacked. In this instance the Commanding Officer was attacked, "and is supposed to have contracted the disease during his visit to the hospital."

Among the other affected bodies of people, 59 in number, 674 cholera cases were treated, and not one attendant suffered. Unfortunately, the number of attendants in each instance is not given, but, estimated on the scale of the 1st Goorkha Regiment, they must have been very numerous.

13. In our remarks on the great cholera epidemic of 1872 attention was called to the propriety of limiting quarantine restrictions solely to cantonments, in the event of a further trial of this method of protecting communities from cholera being deemed advisable. Since then further experience has been obtained, and in the present Report we have a great number of facts bearing on the subject, but none, unfortunately, which hold out any hope of arresting cholera, either in the country or outside cantonments, by this measure. There are, in fact, no data on which to rest proceedings of this class. The history of cholera since 1872 shows no steady progress in the epidemic in time and space. The fundamental condition on which restriction of intercourse must be based is hence non-existent. There is an apparent movement in the maxima, but already the disease is far ahead of the maxima, and beyond the line of any practicable quarantine cordon.

Like an invading army, an epidemic of cholera is preceded by an indefinite number of advanced guards, which the more careful observations of late years have shown to have established positions a long way, perhaps many hundred miles, in front of the main body. Hence the disease, and all that may follow from its presence, must already exist in localities before any protective steps can be taken, for it is only after realizing its presence and the course it is taking that any rational measures can be adopted for establishing either quarantines or cordons.

14. In the Report under consideration the facts as already epitomized point to the same conclusion as a matter of history. But the old question of the practicability of station cordons has again come forward.

This is the only point with which the Army Sanitary Commission can deal. Restrictions have been tried with regard to a number of stations, with the result, as stated by Dr. Cunningham, that "no single case can be cited in which the smallest good has been effected by them." This result is fully borne out by the statistics. Even with persons actually suffering from choleraic symptoms there have been similar difficulties, for "the experience of 1875," Dr. Cunningham says, "shows that sick persons are not stopped." There is no evidence of sick having been stopped, except as regards Lucknow and Nagode. The first suffered, Nagode escaped; but there are reasons why this fact should be considered on wider grounds.

It may be well, however, while stating the Sanitary Commissioner's estimate of the results of station cordons, to give his facts briefly.

In many cantonments no restrictions were imposed. In three of them pilgrims only were diverted. In others cordons were drawn round the stations to keep out affected persons, and generally to stop communication with affected localities. At six stations quarantine in its more extended sense was introduced, but it was found to be impossible to stop supplies or the post. In a few places, where there was no cholera near, restrictions were imposed, but as there was no cholera to keep out, the resulting immunity can scarcely be ranked as a success.

Leaving out stations within the endemic area, there were 25 places in the Bengal Presidency which were unprotected. None of them suffered to any great extent, and some escaped.

Within the endemic area of 1875 there were 29 cantonments "where restrictions more or less stringent were imposed," and yet 20 of these suffered from cholera, many of them suffered much. Of the remaining nine stations, several have hitherto been more or less exempt from cholera without quarantine; several are hill stations, which rarely suffer; and in one case, "Kasauli, with quarantine, suffered heavily, while Subathu, Dagshai, and Jutogh with it escaped, but so did Solun, which lies in the midst of them," although unprotected. In one instance, Bagsu, the protection afforded by quarantine was considered complete, but it turned out on inquiry that in some very essential points quarantine could not be carried out, and, notwithstanding the restrictions, severe diarrhoea (24 cases out of 121 men) broke out.

These facts show how necessary it is to investigate all similar cases with great care and minuteness, and at the time, if the truth is ever to become known.

15. The experience of 1875, taken in its broad features, and apart from all theoretical discussions, is unfavourable to the idea of placing any faith in cordons for protecting the health of troops during cholera epidemics, even although the restrictions may be rendered as complete as possible.

It follows that we must look mainly to sanitary improvements for protection, and, as any information on these points is of importance, it may be well that attention be called to the following facts:—

Cachar, 3rd Native Infantry.—"Drainage very imperfect."

Chunar.—"The bungalow used as a barrack by Europeans is deficient in ventilation, especially when the end rooms are occupied, as they sometimes are, by married men. Washings of cook-houses, &c., drain into the lower ground which surrounds the bungalow. The water-supply from the Ganges is liable to pollution. The beer was reported sour."

Fyzabad.—"Too abundant vegetation on the west side of cantonments. . . . A mango grove obstructing ventilation opposite No. 6 barrack, and keeping the ground damp." (N.B. This may be remedied probably without cutting down trees.) "Two large excavations on the north and south-east, and several cesspools near the hospital and barracks," 1st Battalion, 25th Regiment. "Sanitary condition of the lines at the time not so good as it might have been." Defects not stated.

Lucknow, Royal Artillery.—"Sanitary condition of lines satisfactory, and conservancy arrangements carefully looked after. Water was boiled and filtered. Disease could not be connected with water from any particular well." (This has an important bearing on the cholera water theory, for the Artillery had 24 cases of cholera). "The drainage is fairly good." 13th Hussars.—"Barracks old . . . but fairly water-tight. . . . In family quarters ventilation not so good as in barracks, from subdivision into rooms. . . . Walls appeared damp during heavy rains. . . . Drainage on surface, and fairly good, but from the ground being level, and the soil so impermeable, the whole surface is more or less under water for a considerable time after heavy rain. Around the hospital the drainage is not so good as round the barracks." (This simply means that the whole station requires to be drained.) Roof ventilation in male wards "somewhat deficient." 40th Regiment.—"The sanitary condition of the lines was most satisfactory. No facts whatever to connect the disease with water polluted by cholera discharges." 65th Regiment.—"The drainage of the lines is indifferent; no evidence to connect the disease with polluted water." 6th Native Infantry.—"In the Fort the quarters are dark, badly ventilated, and afford too little superficial space. Conservancy also reported to be defective there." 41st Native Infantry.—"In the Fort there is no drinkable water." The nearest is half a mile away, and the men drink the bad water.

Bareilly, 11th Native Infantry.—"The barracks overcrowded."

Roorkee, 55th Foot.—The fire buckets are hung in the verandahs of the bungalows. The water had not been changed for weeks, and smelt "most objectionably" in one bungalow where two children and one woman contracted the disease. *Thomason C. E. College.*—Imperfect drainage, unsatisfactory state of Native students' latrines. Some overcrowding in class room and want of proper protection to the well. (Some of these defects had been remedied.)

Meerut, Royal Artillery.—Syces and grass-cutters' lines badly constructed, in many instances 12 and 15 inches below level of ground. 85th Regiment.—"The ground around the hospital, in which the only case occurred, was water-logged owing to unusual heavy rain."

Muttra.—"Large sudder bazaar close by, objected to. Its conservancy defective. Slaughter-house also objected to."

Morar.—Quarters of Bombardiers first attacked were in an insanitary condition (defects not stated). 54th Regiment.—Biswas Nullah, near barracks, "may have been prejudicial to health." An unsatisfactory native latrine near regimental bazaar. *Fort Gwalior.*—"There are eight large tanks of stagnant water in the fortress, some of which in the early morning and evening give off unpleasant effluvia."

Nowgong, 63rd Regiment.—Black cotton soil. Becomes very swampy in the rains. Numerous family houses bring many Natives constantly near the quarters, harbouring refuse and encouraging flies. Drainage from these quarters at times offensive.

Sirdarpore.—Bed of river fouler than usual from want of flushing.

Umballa, Rifle Brigade.—"Drainage is imperfect."

Kasauli.—No. 16 family barrack appears to have been built on old foul ground, and the floor was damp.

Simla.—As this hill station suffered greatly during the epidemic of 1875, it may be useful to call special attention to the facts. The population consisted of 1,434 Europeans and Eurasians and 13,414 Natives. The first case of cholera occurred on June 26th, and the last on August 25th. There were in all 341 seizures and 184 deaths. The epidemic began by a single case, and ended in the same way. It reached its maximum period between July 18th and August 3rd, between which dates there were 212 cases. Of the total attacks 25 were in Europeans and Eurasians, and 316 in Natives; 308 were adults, and 33 children. The incidence of cholera according to locality was as follows:—

Main bazaar	-	-	-	-	89 cases.
Lukkur bazaar	-	-	-	-	14 "
Boileau Gunge	-	-	-	-	7 "
Chota Simla	-	-	-	-	2 "
Khyutoo	-	-	-	-	6 "
Detachment of Goorkha Regiment	-	-	-	-	4 "
Jail	-	-	-	-	2 "
Private compounds	-	-	-	-	217 "

The Viceroy's household, comprehending 620 persons, entirely escaped. For weeks before cholera appeared the public health was bad, and many deaths from fever took place. During the cholera outbreak diarrhœa was very prevalent. The following general account of the sanitary state of Simla is given in the notes:—"Sanitary Defects.—These are many and great. The water-supply, drawn as it is from many independent and unprotected sources, is scanty, and open to all kinds of contamination; the conservancy both of bazaars and private houses is defective. The houses in which the Natives and even some of the Europeans live are overcrowded, ill ventilated, and damp during the rains. Many of the huts occupied by Native servants in particular are not fit to live in. The sanitary condition of the settlement has been reported on by a special Committee, and recommendations have been made for dealing with all these evils."

At Simla, as in many other instances, the fatality of cholera was quite unnecessarily augmented by erroneous ideas regarding the advantages of removal and isolation of the sick. During the epidemic of 1848-49 in this country it was proved as a fact that the mere removal often destroyed all chance of recovery. At Simla, out of 58 cases dealt with in this way, 47, or 81 per cent., died, some of them on the road.

Ferozepore, Royal Artillery.—To the east of the lines, at the distance of nearly half a mile, there is some low ground where the water lies for some days after a heavy fall of rain.

Dharmasala, 1st Goorkhas.—State of the lines was very bad; huts overcrowded together. New lines are in course of construction. Water-supply open to contamination. A watercourse which passes through the lines flows past the jail, where there had been cases of cholera some days before, and a portion of the drainage of the jail is liable in heavy rain to be washed into it. (But the springs which supply drinking water are above the flood level of the stream, and 300 or 400 yards from the jail.)

Umritsur and Govindgurh, 1st Battalion, 6th Foot.—"A large quantity of rain was lying on the ground, and the ground was thoroughly soaked."

Meeran Meer, 2nd Battalion, 1st Foot.—"Two of the men attacked worked in a barrack, where for some time previously a bad smell had been noticed as emanating from the brick floor. This building has since been abandoned."

16. These are all the facts respecting the sanitary condition of stations contained in the notes sent to the Sanitary Commissioner. It can scarcely be said that they afford any other than very general indications of the class of remedies required. But as local improvements afford the only practicable means of diminishing the liability of troops and civil population near stations to epidemic outbreaks, it seems necessary to call attention to the defective character of the information, such as it is. Indeed, from Dr. Cunningham's Report, judged as a whole, he appears to have found it necessary for progress to deal mainly with opinions on the spread of cholera by contagion, and he calls pointed attention to the dangers of admitting such a supposition as a basis of action, because it excites alarm (a known cause of cholera attacks), it leads to exposing troops and others employed on cordon duty to fatigue and night work, and, worse than all, it lulls people into fatal security by trusting to cordons for protection which can only come from active sanitary work.

It would be most advisable that in future reports from stations the local authorities should pay special attention to the sanitary state of the subsoil, wells, buildings, bazaars, and Native towns, and of the vicinity generally; we want much more information on all these matters than we have yet had.

17. The information in the notes points chiefly to fundamental drainage defects at stations, and in some instances to suspicious water supply and defective accommodation. In this respect it confirms all past reports, and might very well be assumed as a basis of more extended local inquiry.

18. The evidence regarding the epidemic, as a whole, points directly to the influence of locality on the severity of cholera, and thus the experience of stations is in harmony with the statistical facts of the epidemic among the civil population. But besides this, evidence of another kind is furnished by the effect of movement of troops, the facts regarding which are as follow:—

At Chunar the barracks were vacated, and "no cases occurred in camp."

At Lucknow the Royal Artillery had eight cases in camp after removal. The 13th Hussars, 40th Regiment, 65th Regiment, and 19th Bengal Cavalry were all attacked with cholera, which disappeared, except a few cases of diarrhœa, on removal into camp.

At Cawnpore there were no more cholera cases after the barracks were vacated.

At Allahabad the same result followed removal.

At Moradabad a woman was seized with cholera after removal, but no other case followed; "returned all well."

At Roorkee, whenever disease appeared in a barrack, troops and families were removed out; only one case took place afterwards, in a family. The native pupils of the College, 40 strong, were moved into camp, and yielded three cases afterwards.

At Meerut the A/C and E/F, Royal Horse Artillery, and the B/8 and F/8, Royal Artillery, were moved out of barracks into tents within cantonments. The last corps had three cases.

At Delhi the E Company, 55th foot, had two cases in barracks; it was then put under canvas, when another case took place. It was then moved away, and the disease was arrested. A half battery of Royal Artillery was sent directly away, and remained free of disease.

At Muttra the movement was made partly into camp, partly into buildings at a distance, and no disease followed.

The following were the results of movement at *Morar*. The Royal Artillery were moved into tents, and no further attack took place. The right wing, 54th Regiment, was moved away four miles; there it had four cases; it was moved again, and one case followed. The head-quarters sick, among whom the largest proportion of cases had taken place, were moved, and only one suspicious case followed. This regiment had, in all, 26 cases of cholera, only 5 of which took place in camp. The disease at Fort Gwalior was arrested by removal into camp. One woman was seized in a tent on the parade ground.

Nougong.—"Several parties from affected barracks were moved into tents at distances from " 1,000 yards to two miles from barracks, and all with complete success. No further case " occurred in any of them."

Umballa.—300 men out of 560 were moved into four camps and a rest-house in wet weather. In two camps there were 11 cases, 7 of which were in men who had come from attacked barracks.

At Kasauli the outbreak was sudden and severe, and 215 men, 61 women, and 121 children were moved on to a ridge. Twelve cases occurred, "but they were chiefly among those who had " recently left barracks."

Ferozepore.—Removal of men of Royal Artillery and 2nd Battalion, 12th Foot, was quite successful. No cases occurred in camp after they had been 24 hours in it.

Dharmasala.—The 81st Regiment was marched into camp. One man was attacked on the road, but no one else. The Goorkha Regiment was moved to a lower position and had 10 cases, and 8 others on another site. It had altogether 97 cases, 79 in quarters and 18 in camp.

Kangra.—Movement into tents inside the fort; no further cases.

Umritsur and Govindghur.—No further cases after movement.

Meean Meer.—Some of the married people were placed in camp, and no further cases took place.

19. It cannot be denied that this expedient of moving the troops out of affected buildings, or even away from the locality, has been a success. The apparent exceptions might be due to well known causes, such, for example, as delaying removal too long,—for in such cases there is nothing to prevent the disease becoming developed subsequently,—or fatigue, or movement in bad weather to moist ground.

The measure, as a rule, had been so successful that the real point for investigation is the reason of the exceptions.

In conclusion, the facts in the present Report of a great cholera epidemic appear to the Commission to point to the following practical conclusions:—

- 1st. That facts regarding the movement of cholera show that, whether or not cordons be drawn round stations, no dependence can be placed on them as a protection against cholera, while the employment of troops on cordon duty may be a direct means of augmenting the mortality.
- 2nd. That evidence afforded by the epidemic, whether derived from the facts of its distribution, or from the results of movement of troops, points to the great importance of locality as an element in the fatality of cholera.
- 3rd. That in future reports the sanitary condition of stations, especially as connected with the drainage of the subsoil, water-supply, conservancy, state of bazaar and Native towns, should have a much more prominent place assigned to it than has hitherto been the case in reports on cholera, and that the facts regarding locality in the notes appended to the present Report should be taken into consideration with the view to further inquiry being made and defects remedied.
- 4th. That the most important of all means of protecting troops from outbreaks of cholera is timely removal from infected and threatened cantonments, and that, while this measure is rigidly carried out, means should be adopted for preventing troops frequenting places where cholera has already appeared.
- 5th. That the entire chain of facts connected with the epidemic of 1875 shows the necessity of coping with the causes of disease in the localities themselves, for upon the continued progress of sanitary improvement, especially in the purity of drinking water and of the atmosphere, cleanliness, surface drainage, &c., in the towns and villages of India, it depends whether the intensity of each succeeding epidemic is to be less or greater than that which has preceded it, so far at least as past experience enables us to judge.

26th May 1877.

No. 2.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER for MADRAS for 1875.

The present Report, prepared by Dr. King, Acting Sanitary Commissioner, although chiefly devoted to sanitary statistics, like the Report of last year, nevertheless contains references to work done of more than usual interest, which it is hoped may be the means of throwing more light on local disease causes, especially those to which malarial fevers owe their prevalence.

The Report is divided as usual into separate sections for British and Native troops, civil population, and jails. It is followed by an interesting appendix of local reports on leprosy in different parts of Madras Presidency; and the volume is concluded by tabular vital statistics of the civil population.

(British Troops.)

1. There are several accounts given of the strength of British troops during the year.

The mean of the Adjutant-General's returns for the commencement and end of 1875 gives the strength at 11,333.

The mean strength of troops quartered at 20 stations as deduced from weekly stational reports was 10,734, but including troops in movement the mean strength was 11,005.

2. From among troops at stations the admissions to hospital were 12,015 = 1,119·34 per 1,000 strength. Troops on march had 50 admissions = 184·5 per 1,000. The average admissions for the whole British force were 1,096·31 per 1,000.

The average daily sick at stations were 57·84 per 1,000 (621 men), among troops on march 25·83 per 1,000 (7 men), and for the whole Army 57·05 per 1,000 (628 men).

The deaths in the British Army proper numbered 163 = 14·8 per 1,000 strength; of these deaths 150 took place at stations, and 13 on the march. Including veterans and troops in garrisons the total deaths were 177.

3. The first point regarding admissions to hospital is a very unsatisfactory one, viz., that *venereal diseases* were by far the most prevalent admission causes, as will be seen from the following statement:—

	Admissions.
Venereal diseases	2,153
Simple continued fever	1,300
Intermittent fever	825
Hepatic affections	778
Dysentery	738

The admissions per 1,000 from different classes of venereal affections were—

	Per 1,000.
Primary syphilis	72·95
Secondary syphilis	39·22
Gonorrhœa	88·31

Total 204·84 per 1,000 strength.

The highest admission rate from venereal diseases where the strengths admit of comparison was 310 per 1,000 at Bellary, with a force of 906 men. At Secunderabad (2,288 men) the admission rate was 217·65 per 1,000. At Madras (515 men) the rate was 264 per 1,000. At Kamptee (1,004 men) it was 261 per 1,000. At Bangalore (1,667 men) the rate was 182·36 per 1,000. The lowest rate, 59·32 per 1,000, was at Tonghoo (472 men).

The most important venereal affection, primary syphilis, gave rise to 17 per 1,000 admissions at Tonghoo, the lowest rate. From this point the numbers were from 6 to 8 and 9 per cent. of the strength; the highest rate, about 14 per cent., was at Bellary.

Whatever may be alleged as the causes of these very various admission rates, one thing appears to be self-evident, viz., that lock hospitals and police regulations have hitherto failed to check this serious cause of inefficiency in the Madras Army.

4. Admissions from *simple continued fever* were 120·36 per 1,000 strength. The highest rates were at Bellary (338·85 per 1,000), and Madras (268 per 1,000). Only two deaths were attributed to this form of fever.

Intermittent fever was most prevalent at Kamptee (407·37 per 1,000 strength). For the whole Army the admissions were 75·74 per 1,000, and no deaths.

5. *Hepatic diseases* gave rise to 70·6 admissions per 1,000 of the whole Army. Cannanore had 116, and Tonghoo 108 admissions per 1,000 from this class of diseases.

6. *Dysentery* gave rise to 68·75 admissions per 1,000 for the whole Army proper, and was most prevalent at Tonghoo (211·86 per 1,000), and Rangoon (103·09 per 1,000).

Secunderabad, which used formerly to suffer so severely from these diseases, had (in 1875) 76·04 admissions per 1,000 from hepatic affections, and 88·28 per 1,000 from dysentery, both proportions still far too high.

7. *Enteric fever*.—This admission cause has notably diminished in frequency. In 1874 the rate was 3·12 per 1,000, and in 1875 it was 2·14 per 1,000. Out of 23 cases in 1875, 10 took place at Secunderabad and 4 at its former head-quarters Cannanore.

8. *Cholera* occasioned only 7 admissions among British troops during a year of cholera prevalence over India.

9. The chief death causes were as follow:—

Hepatitis	29 deaths.
Dysentery	16 "
Drowning	14 "
Aneurisms	14 "
Phthisis	13 "
Enteric fever	7 "
Hepatic abscess	6 "
Secondary syphilis	5 "
Cholera	4 "
Insolation	4 "
Alcoholic poisoning	4 "
Delirium tremens	3 "
Remittent fever	2 "

The two most important death causes, so far as Indian diseases are concerned, were thus, hepatitis, including hepatic abscess, and dysentery. As a step towards better knowledge of

reasons for their prevalence the following proportions for the larger stations may be extracted from the Report :—

Stations.	Deaths per 1,000.		
	Dysentery.	Hepatic Diseases.	Total.
St. Thomas' Mount	5.43	5.43	10.86
Secunderabad	8.05	5.68	8.73
Tonghoo	2.11	6.35	8.46
Rangoon	1.28	2.57	3.85
Bangalore	0.59	2.99	3.58
Trichinopoly	3.58	—	3.58
Cannanore	—	3.26	3.26
Kamptee	—	1.99	1.99

The rates vary so materially at these stations as to call for local inquiry, including under this the intemperate habits, diet, and regimen of the men. It may be suggested whether impure water-supply at stations affected by dysentery may not be a cause of this disease, as it was found to be among French troops in Algeria. Providing good water was in this instance attended by a notable reduction in deaths from dysentery. It may also be recalled that evidence was given before the Royal Commission on the Sanitary State of the Indian Army which went to show that exposure of the men at night to draughts of cold air while in bed was a cause of hepatitis, admitting of easy remedy.

10. As a general rule, those stations where a few troops only are placed show the highest sick and death-rates. Thus Poonamallee, with 196 men, showed an admission ratio of 2,428½ per 1,000, and a death-rate of 81.63 per 1,000. It is an invalid depôt, but still the statistics are most unfavourable. Trichinopoly, with 279 men, showed a death-rate of 25 per 1,000 strength.

Compared with previous years, the death-rate for 1875 was under the mean :—

	Deaths per 1,000.
1869	23.25
1870	10.43
1871	19.18
1872	19.21
1873	18.51
1874	13.40
Mean, 6 years	18.74
1875	14.81

The more important death causes for the same six years afford the following data :—

	Deaths per 1,000 Strength.	
	Mean of 6 Years, 1869-74.	1875.
Typhoid fever	1.28	0.63
Continued ditto	0.27	0.18
Remittent ditto	0.45	0.18
Cholera	1.82	0.36
Dysentery	2.01	1.45
Hepatic diseases	4.02	3.36
Sunstroke and apoplexy	0.73	0.45

This abstract shows a favourable reduction in the mortality from Indian diseases in 1875. But it must be considered together with the question of invaliding, which is excessive in the Madras Army.

11. The Report contains a table of invaliding, which shows that during 15 years, 1860 to 1874, the invaliding for discharge amounted to an average of 11.45 per 1,000, and for change to 40.09 per 1,000. But in 1875 the invaliding for discharge was 16.08 per 1,000, and for change no less than 62.42 per 1,000 ; together equal to a loss of 78.50 per 1,000.

The actual loss in 1875 amounted to 687 men for change of climate, and 177 for discharge, or together 864, the strength of a battalion. Of this number, 160 men were sent for change on account of liver disease, and 6 for discharge ; 124 men were sent away for change, and 29 for discharge, on account of debility ; for dysentery the numbers were 97 and 5 ; for phthisis, 37 and 32 ; for secondary syphilis, 50 and 7 ; and for rheumatism, 27 and 14.

These figures are sufficient to show how little dependence can be placed on reduced death-rates in the Madras Army as indicating improved health, but they also show that the question of invaliding in the Madras Army requires to be examined into. On the general subject, reference may be made to the remarks of the Commission on the Report for 1874 of the Sanitary Commissioner with the Government of India, para. 21, printed in the India Office Blue Book for 1876.

There must be something radically wrong at the stations themselves, or in the class of men, or in their habits, which show the following result for 1875 :—

	Invalid Ratio per 1,000 Strength.
Rangoon	70
St. Thomas' Mount	89·67
Tonghoo	105·93
Trichinopoly	100·35
Secunderabad	113·19
Cannanore	116·
Malliapooram	135·
Madras	168·93
Calicut	224·48

These figures require no comment. They are sufficient of themselves to afford reason for a searching inquiry into the entire subject of invaliding; and in the meantime it would be unsafe to deduce from the mortality statistics alone any decided opinion as to the actual sanitary state of the Army.

12. The total strength of women belonging to the Army proper was 1,440, among whom the admissions to hospital were 1,302 = 904·7 per 1,000. The daily sick were 31·22 per 1,000. Of the admissions, 314 were due to childbirth. The chief diseases admitted were simple continued fever, intermittent fever, diarrhœa, dysentery, and hepatic affections.

The death-rate among women was 18·05 per 1,000, chiefly from phthisis, dysentery, and fevers (2 from enteric fever).

13. The average strength of children was 2,296. The admission-rate was 556·07 per 1,000, and the deaths 49·40 per 1,000.

The most fatal diseases among children were teething, diarrhœa, and convulsions, which together occasioned 71 deaths out of a total of 148.

This fact affords an additional illustration of the need of special care in rearing children in Indian climates, for the chief death causes are only aggravated forms of those prevalent in England, and they were most fatal in children under one year of age, who yielded 79 deaths, more than half the entire mortality.

14. Before proceeding further, it may be well to call attention to the remarkable immunity from cholera of the British troops in 1875.

The total cholera deaths in Madras Presidency during the year amounted to 94,657, or 3·1 per 1,000 of the census population. As has been already stated, there were only 4 cholera deaths among British troops (2 at Trichinopoly, 1 at Madras, and 1 at St. Thomas' Mount), equal to a death-rate of 0·36 per 1,000. Among Native troops the cholera deaths were 1·47 per 1,000.

Hence the cholera deaths during 1875 showed the following ratios :—

British troops	-	-	-	1
Native troops	-	-	-	4
Civil population	-	-	-	8½

Considering the history of cholera among British troops in times past, the question may fairly be suggested whether the results of a great epidemic year such as 1875 do not show some return for the care and outlay which have been incurred on the stations both of British and Native troops?

This point is one not influenced by the amount of invaliding.

15. The second section of the Report gives the statistical facts, station by station, together with a few notes on diseases.

The only station in regard to which any sanitary information is given is Bangalore, but this is of a satisfactory kind. The Acting Sanitary Commissioner says :—“The municipality completed 1,836 feet of box drains and 11,780 of V section drains during the year. The drainage of the Cavalry and Artillery barracks is proceeding. The works necessary for the conversion into dry land of the swampy ground at the tail of the Dumloor tank, a fertile source of malaria, have been sanctioned. The diversion of the sewage of the eastern side of the Infantry barracks from the Ulsoor tank into the main sewer has also been sanctioned. The great water-supply scheme is progressing, and several new wells have been dug and old ones improved.” All this is work in the right direction, except the “box drains,” which will have to be replaced some time or other, unless square sections influence sewage flow in a different degree in India than they do in England.

There is little information about cholera. At some stations a very necessary precaution was taken, viz., preventing men from going into infected places.

Quarantine appears to have been tried for cantonments, but without very evident success. It was tried at Bangalore, but cholera, nevertheless, broke out in the cantonment bazaar and St. John's Hill. There were 584 cases reported, and 360 deaths. Except a single fatal case in a soldier's wife, none of the troops suffered.

Notes on venereal diseases reveal the usual administrative difficulties in dealing with these affections, and show little or no progress in protecting troops from them.

(Native Troops.)

16. Section 4 gives details regarding the Native Army, but, as these have been referred to the Commission on other papers, it is unnecessary to deal with them at present.

(Civil Population.)

17. Section 1 of Part II. of the Report is devoted to the civil population, and the mortuary statistics are based on the census of 1871, which gave the following population for the districts and towns :—

Males	-	-	-	15,178,449
Females	-	-	-	15,100,454
Total	-	-	-	<u>30,278,903</u>

The registered deaths in 1875 amounted to—

Males	-	-	-	335,388
Females	-	-	-	305,872
Total	-	-	-	<u>641,260</u>

equal to a death-rate of 21·1 per 1,000 (4 per 1,000 higher than in 1874).

The births registered were of—

Males	-	-	-	327,754
Females	-	-	-	311,017
Total	-	-	-	<u>638,771</u>

or a birth-rate of 21·09 per 1,000.

These are perhaps the best registration results yet obtained, but both ratios are evidently too low, particularly that for births. The figures show nothing more than progress towards greater efficiency in registration, and are so far encouraging.

18. The deaths registered from the principal diseases among the civil population were from—

	Deaths.
Cholera	- 94,657
Small-pox	- 24,787
Fevers	- 252,131
Bowel complaints	- 37,613
Other causes	- 245,865

Among the latter are included 2,036 deaths by snake-bite, and 247 by wild beasts.

There are a few points of interest respecting the chief death causes which may be usefully noticed.

19. *Cholera*.—The following important statistical facts show the annual force of cholera for the last 10 years in the Madras Presidency :—

	Deaths from Cholera.
1866	- 200,961
1867	- 33,205
1868	- 8,036
1869	- 21,034
1870	- 55,867
1871	- 17,656
1872	- 13,247
1873	- 840
1874	- 313
1875	- 94,657

A simple inspection of this table is sufficient to set at rest all discussions on cholera theory up to the present time, for it is a self-evident proposition that none of them can account for the facts, and that it is worse than useless to seek for help from any of them. The one consolatory circumstance presented by the figures is that, whereas the deaths for the first five years of the series were 319,103, for the second five years they amounted to 126,713, or about one half; and it is allowable in such a comparison to state that sanitary work has progressed during the second period more than it did during the first.

The following remarks on the origin of the epidemic of 1875 by the Acting Sanitary Commissioner contain truthful propositions:—"I do not intend," he says, "to express any opinion on the origin of the epidemic of cholera which began in April 1875. In the present state of our knowledge, I prefer that theories of the ætiology of cholera should come, as hitherto, neither from the east nor from the west, nor yet from the south. . . . It is obvious," he says, "that our epidemic of 1875 did not come from the north, but from the south-east."

This statement is important in its bearing on the history of Madras cholera in its relation to cholera in Ceylon, which latter used to be considered as a direct importation from India. The history of cholera in Madras in 1875 shows that it existed in scattered cases in Southern India, and that the disease was epidemic in Ceylon before it assumed the proportions of an epidemic in Madras. On the practical question as to whether the disease was this time imported from Ceylon the Acting Commissioner says: "It may as well be laid down at once that the exclusion of epidemic disease prevalent in Ceylon from the south of India by quarantine is impossible, on account of the innumerable points of seaboard where landing can be effected."

The disease became epidemic in Ceylon in January 1875, and continued so with varying force throughout the year.

As regards India, there were isolated cases in North Arcot in February 1874, and elsewhere in Southern India during that year. In Tanjore there were deaths in every month of 1874, except January and June. In this district there were two deaths in January 1875 (12th and 15th of the month), another on February 9th, and again on the 13th and 15th. There was one on the 28th February, and none till March 22nd. The disease assumed the epidemic intensity in Tanjore in April.

The deaths in Ceylon for the first months of 1875 were,—

January	-	-	-	-	-	16
February	-	-	-	-	-	70
March	-	-	-	-	-	281
April	-	-	-	-	-	102

Thus, in Southern India the period of epidemic outburst corresponded with the fourth epidemic month in Ceylon.

The disease appeared in Madras districts in the following order :—

January	-	-	-	-	-	South Arcot.
					-	Tanjore.
					-	Malabar.
February	-	-	-	-	-	Ganjam.
March	-	-	-	-	-	Trichinopoly.
April	-	-	-	-	-	Tinevelly.
					-	Chingleput.
June	-	-	-	-	-	Cuddapah.
					-	Madura.
					-	Coimbatore.
					-	Nellore.
July	-	-	-	-	-	Bellary.
					-	North Arcot.
					-	Salem.
					-	Madras.
August	-	-	-	-	-	Kurnool.
					-	Nilgherries.
September	-	-	-	-	-	Nellore.
					-	Kistna.
November	-	-	-	-	-	South Canara.
December	-	-	-	-	-	Godavery.

20. The map which accompanies the Report affords important information as to the connection of this epidemic with railway communication, which it may be well to abstract as a contribution to one part of the Indian Cholera Inquiry.

A railway line begins at Negapatam, and after a course of about 80 miles arrives at a branching of the line within the circle of Trichinopoly. In Negapatam circle cholera appeared on January 16th. In circles immediately north of Negapatam the disease occurred about the same date, but in the circle first traversed by the railway cholera did not appear till the 22nd May.

In Tanjore circle, the one next traversed, it appeared a month earlier, on March 17th. The next circle, Trichinopoly, was attacked on June 1st. The fact then is that with frequent railway traffic cholera took $4\frac{1}{2}$ months to travel 80 miles.

The first branch of the line turns off to the south in this circle, within which, as has been stated, there was cholera on June 1st. The first and adjoining circle traversed by the south branch was attacked on June 30th. The next traversed circle was attacked on July 11th; but a circle close to the line was attacked on June 10th. The next circle on the line had cases on July 1st. The next on July 17th. The next on August 3rd. The next on August 6th. But in Tinevelly, the district in which the line terminates, a seaport was attacked in April. Leaving out Tinevelly, the disease traversed 180 miles between June 1st and August 6th. But this was the course followed by the epidemic in districts far away from the line and parallel with its course.

Returning to Trichinopoly, we shall next trace the progress of cholera westward to Bepore and the extremity of this division of the railway.

Cholera was in Trichinopoly circle on June 1st, after having taken $4\frac{1}{2}$ months to travel from its commencement at Negapatam. The first circle westward traversed by the railway was attacked on June 30th. The next on July 7th. The next (Perindoray taluq, where the railway again divides) on June 16th. The next circle to the south-west was attacked on July 1st. The next on August 1st. The next on March 8th. The next two districts, between which the line runs, were attacked, one on 18th January, the other on 21st February. The last two districts traversed by the railway were attacked, one on the 21st September, and the terminal one on the 8th June.

These dates appear to show that there was no relation between the railway and the epidemic in the South of India.

Following the line from Perindoray taluq, where cholera first appeared on June 16th, the dates of attack in successive districts towards Madras were as follow :—

July 4th.	August 6th.
August 1st.	August 2nd.
July 7th.	June 6th.
August 7th.	Madras, August 18th.
July 30th.	

Bangalore, at the end of a branch 120 miles long, was attacked on September 1st, which was the time of attack of many districts in the vicinity quite unconnected with the railway. The districts through which the line passed to Bangalore were attacked, one in August and two in December.

Along the north-western line, proceeding towards Bombay, there was a similar absence of relation between the course of the railway and the epidemic.

All the northern circles were attacked in July and August. The furthest north circle on the line had its first case on August 1st, and the circle immediately adjacent was attacked on February 8th. Cuddapah, in the mid-length of the line, was attacked on June 3rd. Generally the earliest dates of attack are to be found in sea-side circles south of Pondicherry, but, proceeding inland, the dates suddenly pass over several months.

The tables in the Report show cholera as first making head in South Arcot, Trichinopoly, and Tanjore, and arriving at its maximum in July, August, September, and October.

As regards railways, there is no evidence to show that the disease was in any way affected by the traffic over them.

The longest length of railway is that between Negapatam and Adoni taluq, about 600 miles. Cholera was in Negapatam in the middle of January, and, notwithstanding the railway, it did not reach Adoni until 1st August.

21. *Bowel Complaints.*—Attention has frequently been called by the Commission to the necessity of inquiring into the diseases classed as “bowel complaints” in the statistical tables, with the view of ascertaining their real nature and their relations to cholera.

The deaths registered under this head in 1875 amounted, as already stated, to 37,613, many of which, no doubt, were from dysentery. The first results of such an inquiry as the one proposed are given in the Proceedings of the Sanitary Commissioner for Madras for May 1876, respecting “bowel complaints” prevailing in Malabar, and are stated briefly as follows by Deputy Surgeon General Stewart, who made the inquiry:—“From the commencement of my inquiry into the “so-called ‘bowel complaints,’ I was unable to learn that the disease which had prevailed in “any of the towns which I had visited was any other than cholera.” And the decision of the Government was “that there is no reason to admit any longer the erroneous nomenclature “advocated by the zillah surgeon, and the cases will be returned as cholera in future health and “season reports.”

This is the first step which has been taken to clear up the history of Indian “bowel complaints.”

The mortality in the present case was 158 deaths out of 226 cases, and there is no apparent difference in the history from that of cholera, except that the cases occurred singly, “in most “isolated instances never attacking many individuals in the same house or place.” Had these “bowel complaints” been epidemic, they would have been reported upon as epidemic cholera. We have thus arrived at another example, besides those given a few years ago by the Sanitary Commissioner for Madras, of the existence of cholera in unconnected cases, in which the disease, although retaining all its fatality, does not extend beyond the individuals attacked. It would be most important for future sanitary work to continue the inquiry, and to extend it into the ætiological and pathological relations of this form of the disease.

22. *Fevers.*—The total fever deaths in 1875, including Europeans and Eurasians, amounted to 252,131.

The following abstract of a table given in the Report shows the annual mortality for 10 years:—

	Deaths from Fevers.
1866	110,102
1867	112,511
1868	105,692
1869	132,346
1870	151,027
1871	192,469
1872	214,148
1873	222,843
1874	226,309
1875	252,131

The Sanitary Commissioner considers that the disease has been increasing, but part of the apparent increase may be due to better registration. Any way, the facts are of serious importance, and point out the need of local investigation and remedy; of the results of the former of which a very striking illustration is afforded by a report on the causes of fever at Cumbum, drawn up by Mr. Farmer, Acting Head Assistant Collector, and Vice President of the Municipal Commission.

23. This report is contained in the Minutes of Proceedings of the Sanitary Commissioner of Madras for March and April 1876, and should be brought under the notice of every Government and municipal authority in India, as a guide to them in dealing with similar local fevers and their causes. The following are the chief practical points in this important paper, premising that attention had been previously called by the Army Sanitary Commission to the extraordinary prevalence of malarial fever and its deplorable results in this locality.

In former times Cumbum was a favourite station, and was by no means unhealthy. At a certain date fever began to prevail, and attracted notice in 1866, mainly, as it appears, from its attacks on local officers and their subordinates. The death-rate went on increasing, and for the six months preceding the date of a municipal report it was 10 per cent. per annum.

The accompanying details are in accordance with these facts, and more resemble those following on a great pestilence than the usual concomitants of periodic fever.

Amongst other results, residence at Cumbum had been certified medically as being dangerous to life, and the only thing that could apparently be done was to remove the station, and to leave the people to their fate. The fever is of a very aggravated type, attended by enlarged spleen.

The population of the place has been, of course diminishing, and the decay and ruin of this once favoured locality appeared inevitable.

What was the cause of this calamity? Could it be accounted for on any fever theory? Unfortunately none such presented itself bringing any remedy with it, except the desertion of what was once a flourishing town. It may turn out to be a most fortunate event, not only for Cumbum but for other fever stricken localities in India, that the Vice President of the Municipal Commission was so well aware of the nature of the problem with which he had to deal, and of the inadequacy of any theoretical considerations to account for the facts. He therefore sets theory on one side, and by patient and careful analysis he appears to have arrived at the real causes and the means for their removal.

Cumbum is situated in a hilly district, about 70 miles from the Indian Ocean. Its population should have been 10,000, instead of 6,000 to 7,000, the present number. There is a considerable amount of irrigated land, to supply which with water a bund, 308 yards in length and $27\frac{1}{2}$ yards in breadth at the top, had been thrown across a valley some hundreds of years ago, to form a large lake, irrigating the lands of 15 villages, which ought to yield half a lac of rupees per annum of revenue.

Curiously enough a large falling off of the revenue gave the key to the subsequent inquiry. It was found that in Cumbum itself the decline since 1868 had been 2·3 per cent., but in the villages the decline was in proportion to the distance of the village from the water source, although the population in these villages had been increasing while in Cumbum it had been diminishing. The reporter says: "In fact, any ryot would explain that directly by saying that 'the water did not reach the village. . . . One of the chief causes of falling off of revenue' was reported to be the leaky and silted up state of the channels which conveyed the water 'from the tank; by the time the channels reach the distant villages hardly any water is left.' The point was thus reached that, although the great tank was still supplying water for irrigation, the water did not reach its destination, to the detriment of the revenue, and must have been going somewhere else.

Mr. Farmer at once proceeded to make inquiry into the facts, for which the report itself may be profitably referred to. It will be sufficient for the present purpose to give the results of his work.

It appears that, from some misunderstanding as to the parties who ought to have kept the irrigation channels open, these became more or less silted up and out of repair, and hence the falling water-supply for the more distant village irrigation.

It appears further that the surplus water from the great irrigation tank, which should have been carried by the irrigation channels, made its way into the old bed of the stream (below the bund), which had been impounded to form the tank in the valley above, and that, to supply the place of the water which could not pass by the proper channels, this stream had been banked up and backwatered in order to obtain a head of irrigation water, so that not only was the town drainage, which ought to have passed into the stream, interfered with, but the running stream was converted into a stagnant marsh and swamp, "studded with floating islands formed by rank vegetation, refuse, and so forth."

The solution of the problem is hence as follows:—

"From the channels falling out of repair resulted directly loss of revenue, and by an attempt at increasing the head of water in these leaky channels, by damming up the stream into which the drainage of the town should flow, a useful drain was turned into a pestilential morass, the subsoil became water-logged, and evil consequences acted and re-acted. Thus the Cumbum tank was turned from a blessing to a curse upon the sickly and dying inhabitants of the place. Subsoil drainage is now a thing unknown; the water in the wells in many places on a level with the surface of the ground, and in most places only a few feet below the surface. The water is, of course, a little lower in the hot weather, and this is followed by a slightly improved subsoil drainage and a proportionally decreasing death-rate." It must, at the same time, be kept in mind that the place contains 66 graveyards, which, no doubt, add to the impurity of the "drinking water defiled by putrefying corpses and crumbling bones." Medical evidence is given that the drinking water is injurious to health.

Similar views as to the causes of unhealthiness at Cumbum are subsequently given by Dr. King, Acting Sanitary Commissioner (who in his Report makes this statement, that "more tombs than living persons are visible in the town"), and also by Deputy Surgeon-General Smith, who agrees with Mr. Farmer as to the remedies required, viz., restoring the drainages and repair of irrigation channels, improving the water-supply, closure of burial grounds, and better conservancy, including the abolition of cesspits.

By a Government Order of 1st April 1876 the evils and their causes are fully recognized, and authority is issued for providing remedies.

The case of Cumbum, in its most essential particulars, resembles the case of Bona, in Algeria, given in the report of the Commission on the causes of reduced mortality in the French Army serving in Algeria (1867). There was the same increased death-rate from silting up of the drainages, and the subsequent result of improved health when the drainages were improved will, it is hoped, be experienced at Cumbum.

The importance of the case lies in its being without doubt a typical one in India, and as pointing out the necessity of very careful inquiries into local fever death-rates, and careful analyses of all the local facts wherever the death-rates are above the average due to the district. In other words, to be practically useful sanitary statistics must deal specially with localities, and in doing so they will best prepare work for the engineer and inspector.

(*Personal Proceedings.*)

24. The "personal proceedings" of the Commissioner are given only in outline in the present Report, and the details are referred to in the monthly record of "Minutes of Proceedings," from

which the facts regarding Cumbum have been taken. A number of localities were visited in the course of the year, and their sanitary condition reported on. In many points immediate action is required almost as much as at Cumbum to remove very obvious disease causes. It is necessary to state this conclusion, as the Commission has no means of knowing what steps have been taken in these matters. For example, the water from Chetty Colum tank, Salem, which has suffered so much from cholera recently, has been analysed by the Acting Chemical Examiner at Madras, who has found that the volatile matters in it weigh nearly the same as the fixed salts, that the odour of the water is "barely distinguishable from drying faecal matter," and that it is of course quite unfit for use.

25. In a Memorandum of the Army Sanitary Commission on papers relating to the cholera in Salem in 1875 (printed in Vol. VIII. of the India Office Sanitary Reports) the following recommendation was made:—"There is no sufficient information as to the real sanitary condition of the town, and nothing is said about the water-supply. Under these circumstances the only remark which appears to be called for is, that it would be advantageous to have a special and skilled inquiry made into the local causes present before the epidemic appeared, with a view to such improvements being carried out in water-supply, drainage, cleansing, and general regulation as may be found to be required."

The Government of Madras placed the proposed inquiry in the hands of Mr. H. H. Smith, Acting Zillah Surgeon at Salem, who has embodied the results in an excellent practical report (dated 30th November 1876), which the Army Sanitary Commission has received from the India Office since the Madras Report for 1875 was submitted to them.

Mr. Smith's inquiry has effectually cleared away any obscurity which may have existed as to the reasons why Salem has been subject to severe periodical outbreaks of cholera, and has indicated clearly the nature of the required remedies.

Salem is built on a plain, partly surrounded by hills, at a height of 950 feet above sea level. The soil is red loam resting on gravel and rock, and the vicinity is under dry and wet cultivation. The town is built on both sides of Salem river.

The population is as follows:—

Hindoos (all castes)	-	-	-	45,897
Mahomedans	-	-	-	3,782
Europeans and Eurasians	-	-	-	333
Total	-	-	-	50,012

Houses are built of brick and chunam, or of mud, with thatched roofs. They are generally clean, but unventilated. The back-yards are "simply filthy," and amongst the Mahomedans are used as privies. There are also private privies and cesspits in some houses. Many houses have wells in these back-yards from 10 to 30 feet deep. The water is stated never to be used for drinking. The sewage of the back-yards is made up of bathing and washing water, and urine of cattle kept in the yards; it sinks into the soil, or is dried up by the sun, or escapes by a hole in the wall to the street drain. "The drainage of the town is exceedingly defective, and until this and the water-supply are put on a proper footing, Salem must always be a hotbed of cholera."

There is no drainage system, only fragments of surface drains "made without regard to level or direction," and the practical result is to pollute the subsoil and the river, the former supplying the wells, but the latter used by the people for drinking. "The water-supply of Salem is at present as bad as it well can be as regards the quality, . . . and I think that it is to the water that we must in a great measure look for the reasons of the prevalence of cholera in the town." The river water is defiled "by the filth from drains, the filth from dirty clothes, and the filth from men's bodies." The river itself is backwatered by three dams thrown across it, forming "three large stagnant pools" into which all dirt and filth are washed, until a rare flood sweeps them clean, and this is the water which the people drink.

It is unnecessary to go into the details of Mr. Smith's report. He has clearly shown that Salem is no exception to the general rule that cholera is sure to locate itself where it can find a home. And he has fully substantiated his conclusion that, although "as regards the streets and general aspect of the town it appears sufficiently clean, it never can be free from cholera until the Municipal Commissioners make up their minds to expend a large sum of money on the drainage and water-supply." And it may be added that they will in the end find it true economy to do so.*

26. Attention may also be called to an analysis, in the same "Minutes of Proceedings" (page 97), of the Red Hill water supplying Madras, showing that this water contains a large quantity of ammonia, nitrates, and common salt, in all probability derived from surface impurities or from the channels. It is evident that the subject requires a searching investigation, and, considering the present state of the subsoil of Madras, it seems not unlikely, as suggested by the Surgeon-General, that "sewage leakage" may have something to do with the foulness of certain local supplies; but the evil must be traced higher up to its source.

* Since this Memorandum was completed, the Commission has received from the India Office a paper of remarks (5th February 1877) on Mr. Smith's report by Mr. Cornish, written since his return to India, in which he recalls the fact that he had in previous reports pointed out the chief sanitary defects of Salem enumerated by Mr. Smith, and he says that, "while defective sanitation is permitted to add to the dangers of an originally faulty site, I fear there will be no real diminution of mortality from this particular epidemic disease." He gives in proof of this view the remarkable reduction in cholera among prisoners since the jail was removed to a more healthy site. There is no difference of opinion that irremediably bad local position is a predisposing cause of cholera, but there are no facts in any documents which have come before the Commission to show that the site of Salem cannot be materially improved by engineering works. The only practical course to take, seeing that the town cannot be removed, is to set free the subsoil drainage, to drain the houses, to supply them with water, and to introduce a rigid sanitary police, and there is no evidence to show that reduction of cholera mortality would not follow these works at Salem as elsewhere.

(Sanitary Progress.)

27. Sanitary work is carried out by "local fund circles" and "municipalities." There are 34 circles and 48 municipal towns. There are no details of work within the circles, except that, out of a total income of 119,314*l.*, the amount spent on sanitary work is 27,660*l.*, or 23·1 per cent. In some instances, however, nothing is spent on public health.

In the municipalities a sum of 30,392*l.* out of a total income of 163,018*l.*, is spent on sanitary works, of which a brief tabular summary is given in the Report. They include improvements in surface cleansing and conservancy, new latrines, surface drains, dust bins, improved water-supplies, widening streets, cutting underwood, improved slaughter-houses, and the like. Considering the extent of population represented by the municipalities and local fund circles, and the smallness of the expenditure, not much result can be expected as yet. A beginning has, however, been made, and if the work of the Sanitary Commissioner can be so arranged as to bring his influence to bear on the sanitary administration, such as it is, much good may be no doubt anticipated. The Acting Sanitary Commissioner has even now attempted to show that there is a relation between the sanitary expenditure and the death-rate. He says that the registered "death-rate in 13 towns whose expenditure on conservancy was 34·8 per cent. of income was 27·7 per 1,000, that of 13 whose mean expenditure was 15·5 per cent. " was 33·8, or 6·1 per 1,000 higher." Of course other elements must be considered in such a problem, but as the money spent in this comparison represents the extent of cleansing done, it is possible that the reduced death-rate may represent a fact due to it. Excluding cholera, the better conserved towns had a death-rate of 5·4 per 1,000 under the others.

The practical result of this part of the Report is that in municipalities, local fund circles, and villages more local interest in sanitary work is very desirable, and that the efforts of the Sanitary Commissioner, aided by some simple instructions for the use of the people and Native authorities, would materially expedite the work of improvement.

(Jails.)

28. The average monthly strength of prisoners was 9,849 during the year 1875.

The admissions were 752·56 per 1,000, and the deaths 39·19 per 1,000 by the Inspector's return, by the medical return 38·68. Of this rate 4·1 per 1,000 was due to cholera (40 deaths). Even with this deduction the rate was higher than of late years, as the following abstract shows :—

Periods.	Ratio per 1,000.	
	Admissions.	Deaths.
1861-66	1,371·1	107·0
1867	1,012·4	53·9
1868	869·1	33·8
1869-74	719·2	27·2
1875	752·6	38·7

The influence of zymotic diseases on these rates was as follows :—

Periods.	Deaths per 1,000.				
	Cholera.	Dysentery.	Diarrhœa.	All others.	Total.
1861-66	23·6	12·9	22·5	48·0	107·0
1867	0·8	8·8	10·5	33·8	53·9
1868	0·2	5·5	7·3	20·8	33·8
1869-74	1·3	4·7	5·0	16·2	27·2
1875	4·1	6·4	7·7	20·5	38·7

These facts are sufficient to show how much jail mortality has been influenced by diseases of the epidemic class. So far as local fevers have contributed to the death-rate, their incidence is represented during 1875 by a death-rate of ·30 for continued fever, 1·62 for intermittent, and 0·81 for remittent fever, together 2·73 per 1,000.

For some reason the jail death-rate has ceased to decline of late years. The higher death-rates have been in the district jails, in which death-rates above 4 per cent. have not been unfrequent. Three jails, Rajahmundry, Berhampore, and Trichinopoly, had death-rates between 4 and 5 per cent. Tranquebar, Palamcottah, and Vizagapatam had death-rates between 5 and 6 per cent. At Madura the rate was nearly 7 per cent. At Mangalore it was 8½ per cent. At Cuddapah it was 9¾ per cent. At Coimbatore it was 11¾ per cent.; and at Tanjore the death-rate was the highest during the year, 13·6 per cent.

In the central jails the lowest death-rate, 24·21 per 1,000, was at Rajahmundry; the highest, 54·79 per 1,000, at Trichinopoly. The district jails, as usual, show the highest death-rates, and stand most in need of improvement. No doubt much has been done in Madras Presidency in this matter, but the figures in the present Report are not satisfactory.

There is an Appendix to the Report containing reports from 11 civil surgeons on leprosy within their districts. Although they contain no new facts on the subject, it may be suggested whether something might not be done to alleviate the sufferings of so many persons attacked by this disease, and possibly to put some check on its propagation. There are many medical officers in

India who are conversant with the subject, and it seems probable that, if each civil station or municipality were to devote a small sum for the purpose, the disease might be attacked in detail, and much good effected at small outlay.

29. From what has been stated, it will be seen that the Madras Report for 1875 contains many points of practical importance to sanitary progress in India.

(1.) The most important of these is the reference to Cumbum in the "Minutes" from which the notice in these remarks has been taken. In some points this case is similar to that of the Godavery and Meerut fevers. In the localities where these fevers prevailed the same obstructed state of the drainages was discovered. But the special importance of the Cumbum inquiry is that it shows how much may be done by local officers in investigating disease causes in their districts, and pointing out generally the remedies. For this reason, and on account of the enormous death-rates attributed to fevers in the mortality returns (252,131 for Madras in 1875), the facts merit a wide circulation over India.

(2.) Attention should again be called to the great prevalence of venereal diseases in the Madras Army, and to the apparent inefficiency of the existing preventive agency.

(3.) Although hepatic diseases have somewhat diminished in fatality, it may be suggested that some account should be given of the reasons why they prevail so much more extensively at certain stations than at others. A similar remark applies to dysentery.

(4.) Although enteric fever has diminished in frequency it still exists, and the local and personal causes should be reported in every case.

(5.) It would be most desirable to examine into the whole question of invaliding in the Madras Army, with the view of ascertaining whether the amount might not be diminished by changing the date of invaliding boards, as suggested in the remarks of the Commission on Dr. Cuningham's Report in last year's India Office Blue Book.

(6.) As contributions to the Indian Cholera Inquiry, attention may be directed to the fact that the rate of progress of cholera in the Madras Presidency in 1875 appeared to have no relation to railway travelling, and that in Malabar an investigation into deaths reported as from "bowel complaint" resulted in the discovery that the cases were true cholera, not epidemic, and not spreading from person to person. And that, as the reported deaths from bowel complaints in India form so large a proportion of the total mortality of the civil population, it would be advisable to make inquiry in other districts of the country as to the real nature of these diseases and their relation to cholera. The Commission is desirous likewise of calling attention to the great reduction of deaths from cholera among British troops in Madras Presidency during a great epidemic year, 1875, as to all appearance having been connected with the progressive sanitary improvement of stations, and the encouragement thus given to continued advance in the same direction.

(7.) The great mortality from cholera in Salem appears to have been connected with an extraordinarily foul condition of the water-supply, as well as with want of drainage and other serious defects.

(8.) The analysis of Red Hill water, given in the Minutes of the Sanitary Commissioner's Proceedings, March and April 1876, shows that, in the interests of public health in Madras, an immediate inquiry should be made into the sources of pollution on the gathering surface, the water channels, and distribution arrangements of the water, and remedy applied.

(9.) There is evidence of commencing improvement in a number of municipalities and local fund circles, and it may be suggested whether the work might not be expedited if the Sanitary Commissioner were enabled to devote more of his time to local inspections, and aiding the authorities by instruction and advice. As recommended for other districts, a few terse sanitary rules for the information and guidance of these authorities and the village population generally would do much good.

(10.) Attention might be directed with advantage to the jail statistics for 1875, which cannot be considered satisfactory, in many cases at least.

24th May 1877.

No. 3.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER for BOMBAY for 1875.

The present Report is one of considerable interest and importance, as showing the transition stage of sanitary administration in Bombay Presidency from its first, almost statistical, aspect into that of real practical struggle with known disease causes.

The statistical part of the Report is as full as usual, but it is satisfactory to learn, from the Commissioner's "Personal Proceedings," that there is now a fair prospect of registration work being otherwise provided for, and that the Commissioner will in future, in accordance with repeated recommendations made by the Army Sanitary Commission, be enabled to devote his whole time to his special duties of disease prevention.

Another important step taken by the Bombay Government, in accordance with the recommendation of this Commission, has been, entrusting sanitary work to the Vaccination Department, so admirably organized by Dr. Pinkerton, thereby recognizing that vaccination is really a sanitary proceeding, and that the officers engaged on it may, without interfering with the efficient discharge of their vaccination duties, render efficient help in bringing to notice disease causes coming under their observation, and in giving advice to village authorities and inhabitants on steps that should be taken for improving their own health.

During Mr. Lumsdaine's absence on three months' leave, Mr. Hewlett became Acting Commissioner, and was thus enabled to bring to the sanitary inspection of Tanna, Poona, Ahmedabad, and Ahmednuggur the knowledge and experience obtained during his laborious and successful work while he was Officer of Health for the City of Bombay, and the resulting reports are a real practical addition to our knowledge of disease causes in Indian cities, and of the general principles on which they ought to be dealt with. These reports cannot fail to be of use to the local authorities, as well as to officers engaged on the reformed sanitary service of the Presidency.

The last section (VI.) of the Report is occupied by a detailed account of sanitary progress in the Presidency cantonments, and of works executed in barracks, hospitals, &c., for accommodation, health, and comfort of troops.

As there are several points in the Report of practical importance, it is proposed to call attention to them as briefly as possible.

1. The death-rates are calculated on the census population of 1872, which amounted for the 24 registration districts to 16,228,774.

The districts include 223 rural circles, 55 town circles, and 7 cantonment circles, within which there were registered (in 1875) 375,718 deaths (exclusive of dead-born) and 340,829 births. Both numbers considerably exceed those of previous years.

Mr. Lumsdaine calculates the births registered and unregistered at 664,705=40 per 1,000 of the population. The registered deaths give a death-rate for 1875 of 23·2 per 1,000 (including cholera), which is manifestly too low. The tables in the Report present considerable discrepancies in the returns, which show registration mortality results varying from 6·34 per 1,000 to 32·03 per 1,000, and birth-rates lying between 1·90 and 60·84 per 1,000 of the population. All that can be said is that the total numbers of births and deaths registered are slowly increasing, but the tables of registration circles show where the defects exist and where greater accuracy is urgently needed. The means of effecting the required improvements can only be settled in India, and the following are the steps proposed by the Bombay Government, which appear to be founded on the facts of the case.

2. They propose to work the registration under the orders of the Collector, until a separate agency can be found. "Seeing that the village is the primary unit, the initial register must begin there;" but unfortunately many patels can neither read nor write, and have to give information from memory. The people are to be urged to give them information nevertheless, and there will always be found some one in the village to write it down. "In the smallest villages there is generally one buniah who can write, and whose entries would be available for the kulkarni when he paid his visit."

Under the new organization of the sanitary and vaccination services, the inspecting officers would undertake the duty of inspecting and compiling the registers of births and deaths.

One important element in this change is that the people themselves are called on to assist in providing correct information for entry in the records, and may thus be led to take greater interest in measures for diminishing their village death-rates. So far as concerns the general sanitary work of the Presidency, these proposals will have the immense advantage of liberating the Sanitary Commissioner from statistical details, and thus enabling him to devote his whole time to his proper functions. The plan, as a whole, is worthy of a full trial, and will doubtless lead to greater completeness in registration, and possibly in time, and by the influence of the inspectors, who are all medical men, to more accurate knowledge of the chief death causes than has hitherto been possible.

3. The following are the death causes as at present classified, in the two latest years:—

Causes of Death.	Deaths.	
	1874.	1875.
Cholera	37	47,555
Small-pox	3,903	3,461
Fevers	183,717	219,156
Bowel complaints	26,990	33,650
Accident or violence	6,165	6,217
All other causes	57,840	65,679
Totals	278,652	375,718

This abstract shows deficiencies in the numbers registered, and inaccuracies in the diagnosis, which it is hoped may be diminished under the new arrangement, but there is no mistaking the great importance of fevers to the well-being of the people.

The great cholera epidemic of 1875 is a small matter when compared with the deaths from endemic fevers, and if dependence could be placed on the diagnosis, the figures would go to show that, when the local causes of fever are most active, cholera is most to be dreaded.

4. *Cholera*.—This cholera pestilence appears to have attacked the registration circles in Bombay with few exceptions, but its exact distribution as regards villages, a matter of great importance in dealing practically with local measures of prevention, cannot be ascertained from the returns. It may be suggested whether it would not be advisable, in future returns of the more important epidemic diseases, such as cholera, fever, small-pox, not only to state the total number of villages and their population, as in the tables of the present Report, but also to give the number of villages and their population *attacked* and *exempted* each year.

So far as can be learned from the data, there were 2,466 villages attacked (but the population is not stated) out of upwards of 40,000 villages in the Presidency, and 96,012 persons were attacked, while 13,064,136 escaped cholera.

It follows from these facts that during the great epidemic of 1875 cholera selected its victims, not by diffusing itself over the country, but by fastening itself upon a comparatively few defined localities. As another element of the history, it will be seen from the following abstract that the prevalence of the epidemic was materially influenced by the season :—

Months.		Cholera Deaths registered in 1875.
January	- - - - -	1
February	- - - - -	1
March	- - - - -	10
April	- - - - -	795
May	- - - - -	5,359
June	- - - - -	10,374
July	- - - - -	12,906
August	- - - - -	8,609
September	- - - - -	3,493
October	- - - - -	3,548
November	- - - - -	1,640
December	- - - - -	819
Total		47,555

The hottest, moistest months were the most fatal.

Mr. Lumsdaine calls attention to another very important fact regarding cholera epidemics in Bombay, viz., their tendency to recur in greatest severity during certain years. As the data have an important bearing, not only on the history of cholera, but also on the introduction of sanitary measures, it may be well to introduce them here.

Years.	Reported Deaths in Civil Population.	Ratio per 1,000.
1866	23,037	1·85
1867	5,143	·39
1868	6,447	·50
1869	52,380	3·77
1870	2,666	·20
1871	5,821	·41
1872	15,642	1·03
1873	232	·02
1874	37	·01
1875	47,555	2·93

In 1865 there were 83,148 recorded cholera deaths, and since then there have been remarkable outbreaks of the disease every third year, all the conditions remaining apparently the same. The lesson taught by the table is, amongst others, that increasing vigilance, not only in effecting sanitary improvement, but in maintaining it in all towns and villages, is a matter of primary necessity. Who could have otherwise predicted that the exemption of 1874 would have been followed by the calamity of 1875? The facts all show the danger of dealing with cholera on any merely hypothetical grounds, or in conformity with any disease theories. It is evident that there are undiscovered reasons, possibly connected with seasonal and personal peculiarities, which tend to augment the activity of recognized local causes at certain periods; and if this be in any sense true, it affords an additional reason for removing all such causes and preventing their recurrence.

5. An illustration of the importance of this view is afforded by an outbreak of cholera among prisoners in Yerrowda Central Jail, near Poona, in the end of May 1875, a report on which is given by Surgeon-Major Blanc, the Superintendent. Between 27th May and 1st June the attack comprised 24 cases and 8 deaths out of 1,279 prisoners. Of the total cases, 22 took place among men engaged at work on a public road, and 2 cases among men not so employed. Of the total number of prisoners, from 725 to 728 were employed out of doors, and of this number from 61 to 134 were employed on the road on the 24th, 25th, and 26th May. It was amongst these that 22 out of the 24 cholera attacks occurred, and the question which the Superintendent had to answer was, why the outbreak should have been mostly confined to this batch of prisoners? He considers that there is proof of the following kind to show that the case was one of cholera water poisoning.

The jail is supplied with water from the river Mula before it reaches Kirkee, where the river makes a bend, and returns, as it were, on itself in its downward course to a point about a mile and a half from where the jail water is drawn, and at this lower point a dam is thrown across the river, over which no water had passed for several days. Consequently, the river below the dam was stagnant, and contained water in pools. The road gang drew water, for watering the road, about half a mile below the dam, and, instead of drinking water from the usual source, it appears that they drank of the water intended for the road.

What relation had this fact to the outbreak of cholera? To this question one of two replies may be given. Dr. Blanc considers that the evidence is in favour of the cause having been

cholera poison in the water. He shows that on 22nd May, five days before the outbreak, there were two fatal cases of cholera in the village of Yerrowda, close to the dam, and that on the evening of the same day the dead bodies were burnt and the clothes washed within 20 yards of the spot where water had been drunk *by some of the prisoners*; and this fact of drinking water from the locality was admitted by those who suffered from cholera.

There are, however, other facts requiring to be valued. Cholera was in the vicinity, and was indeed epidemic in the country. There were washermen at work polluting the water. Two analyses of the water are given, one taken above, the other below, the dam. Both are so unfavourable that the analyst, Mr. Gray, is quite justified in his opinion "that both specimens" are so highly charged with decaying organic matter that their use as drinking waters ought to "be strictly prohibited." Active measures were taken within the prison by Surgeon-Major Blanc for coping with the outbreak.

There is reason to believe from the facts that foul drinking water was an exciting cause of cholera among certain of those who used it. But, as already stated, these were not the only sufferers; whether there was cholera poison in the water or not there are no means of determining, but there can be no doubt that the Acting Chemical Analyser to Government, Mr. Gray, took the only really practical view of the teaching supplied by the case. But it is not meant by this view to support in any way those dangerous Indian customs of disposing of dead bodies and the washing of foul clothes in river courses which may afterwards be used by people for domestic water-supplies. The pollution of rivers requires quite as much attention in India as it does in this country, although it is not carried to the same baneful extent there as it is within the United Kingdom.

6. *Small-pox*.—The small-pox mortality of 1875 was the lowest on record, namely, 3,461. Bombay has the most efficient vaccination service in India, and part of this favourable result is, no doubt, due to its operation. The real test of success must, however, be sought at periods when small-pox has a tendency to become epidemic, which appears to be the case in Bombay every third or fourth year.

7. *Fevers*.—Every district of Bombay Presidency returned fever deaths, or at least those so registered, during 1875. The registered fever deaths varied in different districts from $6\frac{1}{2}$ to 21 per 1,000. In some circles the mortality was very high. In 11 out of 85 registration circles it exceeded 2 per cent. of the population. In Ahmedabad it exceeded 3 per cent. During the last six years, 60 per cent. of the total deaths in Bombay Presidency have been ascribed to fevers. The mortality is greatest during the cold and rainy months of the year.

To discover and deal with local conditions in places where fever prevails most is obviously one of the most important functions of the new sanitary administration.

8. *Bowel Complaints*.—As already stated, there were 47,555 registered deaths from "cholera," and 33,650 deaths from "bowel complaints." In face of these facts it seems necessary to inquire what diseases are classed as "bowel complaints." Are many of them choleraic in character, and, if so, are they not part of the cholera epidemic of the year? If "bowel complaint" is a distinct disease, it must be admitted that from its constant existence it is of more importance to the public health than cholera. During the two years 1874 and 1875 there were 47,592 deaths from cholera in the Presidency, and 60,640 from bowel complaints. The facts speak for themselves.

9. In former years the Commission called attention to the large number of deaths from drowning in water sources, such as wells and tanks.

There were 2,845 deaths from this cause in Bombay Presidency last year. Of these deaths 525 were suicides, 2,084 were accidental, and 236 occurred otherwise. Of these drownings 884 were in wells, by accident, and 400 by suicide, in all 1,284 deaths in wells. There were 49 suicides in tanks, and 354 accidental drownings in tanks. So that 1,638 deaths took place during the year in water sources used by the people. Surely some simple and inexpensive means of protecting water and saving human life might be adopted. There appears to have been little improvement in this matter since it was last referred to years ago.

10. The most important subject in this Report, in reference to future sanitary progress, is contained in Section V., the "Record of Personal Proceedings" of the Sanitary Commissioner, which contains a sketch of the future sanitary organization of the Presidency, based on the proposal of this Commission to utilize the vaccination service for sanitary reporting.

Under the reorganization, the vaccination service will pass into the hands of the Sanitary Commissioner, as being not a separate but an integral part of the public health department of the Presidency, but it will continue to be administered by its own inspectors and superintendents. According to the Government scheme, the superintendents of vaccination will also be the officers of health of their districts, and in this capacity will be under the Sanitary Commissioner. They will inspect the birth and death registers, and advise about them. They will advise on all local sanitary matters, cleansing, draining, water conservancy, and the like, and also on measures required for epidemics. But neither superintendents, nor their subordinates, will do more than advise the people and patels on such simple matters as are within the reach of the people and their means, such as village cleanliness, conservation of wells, tanks, &c. They will have no power to issue any orders. All action must be taken by Collectors and their assistants.

It appears to the Commission that much good would be done by issuing a short code of explanatory rules for the guidance of the people and village authorities, setting forth the objects of these improved sanitary arrangements, and the direction in which the people could aid the authorities in protecting their own health.

It is unnecessary to discuss the details proposed for carrying out the improved administration, as all such questions must be decided by the Government. So far as the principle is concerned, it is in every way worthy of being carefully applied, for there can be no doubt as to the uniform testimony of every report on public health questions received from India, which shows conclusively

that to the action and co-operation of the people themselves and the village officers we must mainly look for the general sanitary improvement of country districts, and the matters in which Government might give aid beneficially will soon become manifest.

The general result may confidently be expected to lie in the direction of improved registration of births and deaths, in enlisting the people in the preservation of their own health by carrying out simple local improvements, and in diminished liability to epidemic diseases.

11. Thus, under the new arrangements, the Sanitary Commissioner will cease to be a mere registrar of deaths, and he will very soon find that he has as much real practical sanitary work to do as will fill up his whole time. He is appointed, indeed, with this very object, and it would be as wide a departure from the real purposes of this important office if its occupant were to devote his time to scientific pathological inquiries as if he were to return again to the functions of registrar. It is not intended, by these remarks, to undervalue either statistics or scientific research, but, as the duties of the Sanitary Commissioner's office are being re-arranged, it is necessary that their real object should be distinctly stated, especially as scientific investigations into Indian diseases are entrusted at present to very competent inquirers there, and the duty of the advising sanitary authority is to take account of every new fact which may throw light on disease causes, and to apply all such facts to practical use.

This is quite enough for one man's superintending work in Bombay Presidency.

12. Mr. Hewlett's reports follow next in order. The first one, on an outbreak of cholera at Tanna, is accompanied by a report on the same outbreak drawn up by Dr. Hojel, Acting Civil Surgeon. These reports give an instructive insight into the internal economy of Indian rural towns in relation to cholera, and show that there is no mystery connected with the localization of the disease, however difficult it may be to account for its being there at all.

The town is situated on the low banks of a creek, its population is about 14,299, of whom 11,340 are without wholesome provision for natural purposes, and hence every sequestered place, even the streets, are fouled. In numbers of houses there are cesspits; the streets are unpaved and unsewered, street drains are merely surface cesspools. "Everywhere," says Mr. Hewlett, "I saw the same disgraceful surface uncleanness, the same want of all proper municipal supervision, and the same absence of persistent sanitary work. . . . The water-supply is on a par with the drainage. The people are solely dependent on surface wells and a large tank," which latter is in a filthy state. Many of the houses appear to be in a very inferior condition, and overcrowded.

Tanna is one of a group of about a dozen registration circles at no great distance from Bombay within which cholera broke out in May 1875. The first case in Tanna appears to have been an imported one, but Dr. Hojel infers the existence of "a septic state of the atmosphere, by the fact that people were attacked in four different quarters of the town." The attack lasted from the 21st of May to the 31st of August 1875, during which period 296 people were affected, and 173 died.

Both reports give details of the sanitary condition of the town, and of energetic sanitary and relief measures carried out by Dr. Hojel, one of which was removing the tiles from the roof of an affected house, pulling down and burning partitions, and digging up the floors. Mr. Hewlett's reason for these proceedings involves an important point in sanitary practice. He says: "Such action has always been found effectual in Bombay, where we have learned from experience that cholera poison cannot live in plenty of air and light."

Both of these reports are valuable additions to practical sanitary literature, and may serve as guides to similar work elsewhere.

13. Mr. Hewlett's reports on the sanitary state of Poona, Ahmednuggur, and Ahmedabad are marked by the same skill in laying hold of the main sanitary defects in each city as have characterized his reports on Bombay. The reports are devoted to real practical points, and may very well be used as guides for improving the cities to which they refer.

The salient facts which appear on the face of each of them are the following :—

- 1st. That no sufficient means have been adopted in times past for keeping these towns free of excrementitious matters of human beings and of animals, and, as a consequence, the entire subsoil has been fouled in such a manner as to taint not only the whole area on which the cities are built, but all the water sources, and the air in the streets and houses.
- 2nd. That the death-rates appear to show that without immigration, one or two of the cities would, in the absence of improvements, cease to be inhabited, and this without taking into account the periodical losses from epidemics.
- 3rd. That the chief death causes are local fevers and bowel complaints, as shown by the following abstract :—

Deaths per 1,000 of Population.					
Poona (4 Years' Average).		Ahmedabad (4 Years' Average).		Ahmednuggur (3 Years' Average).	
Fevers.	Bowel Complaints.	Fevers.	Bowel Complaints.	Fevers.	Bowel Complaints.
12·49	1·73	27·70	2·27	15·9	1·8

To show the importance of these facts, it is sufficient to state that, during the same term of years, the cholera death-rate, so much dreaded, only averaged ·98 at Poona; it was scarcely appreciable statistically at Ahmedabad; and it was 0·03 at Ahmednuggur.

4th. That the remedies for this dangerous condition of these cities must be sought in means for cleansing the subsoils of their pollutions, and at the same time arresting completely their recurrence; that the existing water sources, especially in Ahmedabad and Ahmednuggur, are dangerously impure, and require to be either abandoned or improved, if this be practicable.

5th. That the cities must be drained and paved, animals and noxious trades removed out of them, nuisances prevented, and a rigorous sanitary administration introduced.

It is satisfactory to learn from the reports that some improvements have already been introduced, and that there is no indisposition to proceed. But the revelations made by Mr. Hewlett show that the work before the municipal authorities is one of no ordinary magnitude, and will tax both their resources and energies to cope with it.

14. *Sanitary Reports on Cantonments.*—These reports are 28 in number, and are mainly devoted to departmental details. The sanitary information contained in them is too fragmentary to enable the Commission to discuss them. Generally, however, the impression which they convey is that useful sanitary work is being done, and that, as a whole, the condition of the cantonments in Bombay Presidency is undergoing progressive improvement.

There are, however, a few exceptions to this rule, and these have in former years been made subjects of comment on account of the extent of the problems to be dealt with.

Jacobabad is still suffering from its defective local position, and the cantonment report states that "health is unsatisfactory in all regiments; families in the same condition; health of the "Native community indifferent." The chief disease cause is malaria, from water-logged subsoil, and probably impure water. Some improvements have been carried out, but it is evident that those connected with the drainage have yet to be done.

Mehidpur still suffers from a similar condition of the subsoil. In 1875, out of 858 admissions to hospital no fewer than 500 were from fever. A large portion of the men are stated to be suffering from malarial cachexy, and at ordinary parades sometimes eight men will fall out in a morning. The drainage is said to have been completed, but too late to be beneficial during the year. Attempts were being made to supply better water. Time must be given to show the results of better surface drainage, but in the meantime it is most unsatisfactory to be informed that, out of an average strength of 361, there were 858 admissions to hospital, of which 500 were from local fevers.

Nusseerabad.—Attention has been more than once directed to the condition of Nusseerabad, as regards its surface drainage and water supply. The latter will now be improved, as a scheme has been sanctioned. Complaints as to the state of the surface drainage resolved themselves into an existing malarial condition of surface, from want of a proper system of surface drainage, and the presence at certain seasons of water surfaces, to which injury to health had been traced. Since then the station authorities appear to have been replaced by others, and these have concurred with their predecessors in their views as to the manner in which the drainage should be dealt with.

These views are sustained, in the present Report, by a medical opinion that "the health of "European troops, during the past year, has been unexceptionably good." Let us now see how far this view is sustained by the statistics given by the reporters.

From the 10th March to the 31st December 1875, *i.e.*, during ten months and ten days, out of a strength of 152 men of the Royal Artillery, there were 300 admissions to hospital and 4 deaths.

During the year 1875, there were at the station 450 men of the 108th Regiment, among whom there were 611 admissions to hospital and 13 deaths.

Putting both arms together, and making the necessary addition to the Royal Artillery for completing the year, the admission-rate was 1,600 per 1,000, and the death-rate about 30 per 1,000. The year entire would have furnished nearly 300 fever admissions to hospital, besides "a number of mild cases of this disease, coming under the denomination of heat fevers, "requiring little medical treatment." With these facts before them, the Commission cannot depart in any degree from opinions already expressed by them regarding the defective drainage plans for this station.

Mhow.—The water-supply of this important station appears still to be unsatisfactory, both as regards quantity and quality.

The only other remark called for by these cantonment reports is that in all probability more rapid and certain progress will be made in the work under the supervision of the Sanitary Commissioner from the time the new service is in operation.

15. *Appendix No. III.* contains a list of works of construction, additions, and alterations, completed or in progress during 1875 in barracks, hospitals, and cantonments generally in connection with the accommodation, health, and comfort of troops. It gives returns from 25 stations, and includes new barracks and other buildings, improvements in existing buildings, in ventilation, surface drainage, latrines, lavatories, &c., and includes several hundreds of items, all of more or less importance, as regards the health of the troops. The work of improvement appears to be steadily progressing, as funds are available, and the only suggestion which arises out of these returns is whether it would not be more advantageous to direct special attention to the worst stations, such for instance as those already mentioned, and perhaps Colaba also, with a view of putting an end as speedily as possible to the great losses of efficiency accruing at these stations.

16. These remarks may be concluded by a brief notice of an important investigation undertaken by Mr. Hewlett with the view of ascertaining whether the notorious night-soil nuisance in Bombay harbour was likely to injure the purity of water for the supply of ships, which is drawn from the Vehar mains, at the rate of about 100 tons a day, and carried in tanks to the ships. When the tanks were being filled they were surrounded by floating night-soil.

Distilled water was exposed for 24 hours over tanks filled with Vehar water lying at low tide, about 100 yards off the north end of the Bunder. The result was that this ammonia-free distilled water had acquired from the foul atmosphere—

Parts.

•04 of free ammonia,
•06 of albumenoid ammonia,
per million.

Samples taken from the Vehar water pipe supplying the barge tanks gave—of free ammonia •005, and of albumenoid ammonia •15 parts per million. But in the barges the amount of free ammonia had risen to •01, and of albumenoid ammonia to •23, per million. There was a very slight increase in the chlorine and solids in the barge waters, but the increased impurity had come from atmospheric sources.

The practical result of the inquiry is that the Vehar water should be filtered, as was long ago shown to be necessary by this Commission; that the harbour of Bombay should be kept free of night-soil; and that a strict supervision should be kept up over the barges supplying shipping. Greater care is required also in cleansing the ship tanks, for the analyses of water taken from these receptacles show that chlorine and ammonia in the water greatly exceed the amounts due to the Vehar water by which the tanks are supplied.

In conclusion, the Commission desire to express their opinion that the Report under review is the best and most practical yet supplied from Bombay.

18th May 1877.

No. 4.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER for BENGAL for 1875.

The duty of Sanitary Commissioner for Bengal was ably fulfilled in 1875 by Surgeon-Major Pilcher, who acted for Dr. Coates during a year's absence on leave.

The present Report is, therefore, Mr. Pilcher's, and is marked by the same attention to practical details which distinguished Dr. Coates' Report of last year.

1. There is not much to report regarding registration, which is still in its infancy, but the following abstract will show that, while the number of deaths registered in the general circles, and by ordinary methods, is increasing, the death-rates in selected circles remain tolerably constant; but there is no doubt that these rates are still considerably under the truth:—

Years.	Registered Deaths per 1,000.	
	General Circles.	Selected Circles.
1870	3·92	—
1871	4·00	—
1872	5·81	—
1873	7·75	24·85
1874	8·42	24·72
1875	10·01	24·80

A nearer approach to accuracy was obtained by special statistical inquiry in certain villages in the zemindary of Tushbhunder, carried out by the zemindar.

The result was a death-rate of 32·84 per 1,000 for males, 30·92 per 1,000 for females, and for both 31·91 per 1,000.

It need scarcely be pointed out that, if this rate for one year at all represents the state of public health in Bengal villages, it shows them to be very unhealthy. But it also shows that with due care the registration of deaths may become more trustworthy than it is at present. The subject is discussed in the Resolution of the Government of Bengal, which follows the Report, and it may safely be left in their hands. So far, the introduction of selected areas of registration has led to results far in advance of those obtained in general circles.

2. The following abstract gives the registered mortality in some of the principal towns in Bengal for 1875:—

—	Population.	Mortality per 1,000.	—	Population.	Mortality per 1,000.
Burdwan	32,321	25·95	Darjeeling	3,157	43·07
Sooree	9,001	23·33	Dacca	69,212	24·96
Hooghly and Chinsurah	34,761	26·78	Comillah	12,948	27·72
Serampore	24,440	32·48	Chittagong	20,604	24·41
Ooterpara	4,389	42·60	Gya	66,843	36·63
Howrah	97,784	49·03	Mozufferpore	38,223	17·76
North Suburban Town	27,263	42·25	Chuprah	46,287	20·95
Kishnaghur	26,750	21·45	Monghyr	26,274	21·88
Jessore	8,152	29·19	Bhagulpore	30,148	25·44
Rungpore	14,845	39·33			

Some of these death-rates are evidently too low. They represent the best results obtainable at present, but it is something to have got such information regarding the public health statistics of so large a number of towns even for one year.

3. There is no trustworthy information regarding the total deaths in Bengal in 1875. All that is known on this point is the number of deaths registered, which appears to have been nearly 600,000, out of a population of 59,946,314. But how far below the real mortality this number is may be estimated by the fact that the rural population, amounting to 57,975,352, had a death-rate of only 9·54 per 1,000, probably not one fourth of what it should have had during the great cholera epidemic of 1875.

4. *Principal Death Causes.*—Cholera prevailed in every district in Bengal in 1875, and the deaths registered from this cause were 108,262.

Diseases classed as “fevers” gave rise to 368,087 deaths. These are not, however, to be considered as all being deaths from nosological fevers. The Acting Sanitary Commissioner informs us that “almost all diseases associated with febrile symptoms are returned in this class,” but he at the same time states that for practical purposes the class is sufficiently well defined, and that no subdivision of it could be made with advantage. This view would seem to imply that errors in diagnosis in this class are not such as materially to alter the sanitary relations of these diseases.

Bowel complaints occasioned 35,645 deaths, and small-pox 5,280 deaths.

The following table shows the registered monthly mortality from each of these causes of death:—

	Total Deaths registered.			
	Cholera.	Bowel Diseases.	Fever.	Small-pox.
January	4,993	2,829	29,252	397
February	5,580	2,499	22,794	520
March	11,191	2,613	23,403	812
April	12,396	2,807	25,150	908
May	10,695	2,522	24,688	706
June	7,998	2,401	21,479	498
July	6,140	2,932	25,175	352
August	4,297	3,319	31,418	251
September	2,623	3,330	32,750	155
October	5,425	3,294	38,320	112
November	18,363	3,505	48,894	209
December	18,562	3,596	44,764	360

These four diseases account for all the registered mortality in Bengal, except about 83,000 deaths. The monthly numbers show how much more important a death cause is fever than even an epidemic of cholera. Fever is universally prevalent, and in 1875 the mortality from it was above $3\frac{1}{2}$ times that from cholera.

5. There are several practical points of importance connected with the prevalence of these diseases which may be noticed.

The preceding table shows that cholera had two periods of augmentation, viz., March, April, May; and November and December.

The following was its distribution, as stated by Mr. Pilcher. In January it was present in 211 circles of 34 districts (there are in all 44 registration districts and 644 circles). From February it gradually spread over the districts, increasing also in intensity until April, when 367 circles in all the 44 districts were suffering. From May to July the disease declined. In August and September there was a comparative lull, the disease existing in 263 and 242 circles respectively. In October 274 circles in 43 districts were affected. The disease existed in 426 circles, and in all the districts, in November, and in 442 circles in all the districts in December.

It would have been important to have had the distribution of cholera by villages as well as by circles. Information on this point is only given about certain districts. Such as it is, however, the facts are important in their bearing on certain views on the spread of cholera by contagion.

In Jessore district, the old head-quarters of cholera, there are 4,247 villages, of which 1,352 were attacked.

In the 24-Pergunnahs, 1,330 villages out of 4,991 were affected.

Dacca district had cases in 1,275 villages out of 5,016. At the two large fairs held in this district there was a comparative absence of the disease.

Pooree suffered as usual with the adjacent districts. It is stated that “the disease appeared in thanas quite removed from pilgrim routes, and at a time of the year when it usually breaks out. . . . Many thanas through which the main pilgrim route passes are scarcely affected, while others suffer severely. These are facts not in keeping with the theory that cholera is communicated by travellers from infected districts.” They are results of the statistics which have always been the true correctives of hypotheses founded on insufficient data.

The following fact regarding cholera in Durbhunga district may be cited, although it is not very definite:—“In the district of Durbhunga, cholera appeared among the pilgrims at a festival held at Bazitpore in March, and is said to have been disseminated by the pilgrims. Efforts were made to prevent the entrance of pilgrims into the town of Durbhunga by establishing a cordon of police, which failed in its object. After the fair, cholera is said to have broken out along the lines of road taken by the pilgrims,” but there is no statistical proof of this. The total deaths in Durbhunga town were 52, and in the district, 1,950, the chief weight of which fell on the portion of the district furthest from the fair.

The real practical remedy, however, is that there should be no cholera at fairs, so far at least as it can be averted by sanitary measures.

This Commission, many years ago, in their instructions for the Cholera Inquiry in India, directed special attention to the great importance of statistical and topographical details in elucidating the history of Indian cholera.

Of course, as Mr. Pilcher points out, the solution of problems of this class is essentially connected with the advance of registration of deaths.

A few more statistical facts regarding villages may be added :—

Districts.	Total Villages.	Villages attacked with Cholera.
Maldah - - - - -	2,100	382
Rajshahye - - - - -	4,228	176
Rungpore - - - - -	4,206	1,225
Bogra - - - - -	2,666	512
Pubna - - - - -	2,792	1,661
Total - - - - -	15,992	3,956

The attacked villages amounted to about 24½ per cent. of the whole number.

Cholera appeared in the tea gardens in the Terai in 1875. The gardens attacked were in malarial positions, the coolie lines too close together, the ventilation impeded by jungle, which is also the latrine of the place. The food used by the coolies is coarse and unwholesome, and they get drunk on bad liquor, and sleep in the damp, cold open air. In this case fires had no effect on the disease.

6. There is not much information respecting the sanitary state of attacked villages, but what there is shows that nothing could be worse than the condition of those severely affected. There is one remark of importance which may be abstracted, from its connection with the health of the troops. Mr. Pilcher says: "These filthy villages exist around nearly every cantonment, and as they are evident sources of danger, they should receive more attention than they do. . . . To absorb these villages into the cantonments, by taking up the land upon which they are built, would seem, at first sight, to be the most natural way" of meeting the evil, but this it is considered would not answer, and he thinks it the best course to bring them all, as far as practicable, under the Municipal Act.

This is a matter of great importance, and was considered so by the Indian Army Sanitary Commission, who directed special attention to it. The Army Sanitary Commission has also dwelt repeatedly on its connection with health of cantonments, and as it has again been mentioned, the whole subject may very well engage the attention of the authorities in India.

7. Another matter of great importance has received due attention, namely, the sanitary state of shipping in the port of Calcutta, especially with reference to cholera. There were 34 cases on board 20 ships, which there is reason to believe were mainly caused by foul water sold to the ships by boatmen, supplemented by river water. It is very satisfactory to learn that the Port Commissioners and the Chairman of the Justices for Calcutta will afford the means of supplying all ships with good water from the Calcutta mains, and a diminution of cholera attacks may be expected for the future. The grave importance of the state of water supplied to shipping, especially in the case of ships proceeding to sea, can scarcely be overrated, and it is possible that inquiries instituted by the Port Medical Officer, together with the action of the municipal and port authorities, may lead to a marked improvement in the health of the ships in port. An indispensable part of this reform is that the ships' water tanks should be kept clean and wholesome for the reception of the filtered Calcutta water, and it may be further suggested that much benefit might be realized if every ship were provided with a filter for drinking water.

8. The most important fact regarding fever is that a conviction has become general that the fatal Burdwan epidemic was a malarial fever, and that it has passed away for the present. How far this satisfactory occurrence has been the result of improved sanitary condition there are no means of knowing from the Report, and there is no additional information as to the local conditions calling for remark, except, perhaps, the following account of Tipperah. It appears that in consequence of heavy rains in June the river burst its bounds, and inundated the country. "Some 300 villages are reported to have suffered, the inhabitants being driven to take shelter in the sudder station and in other places of higher level. The water thus collected remained on the ground, no means of draining it away being practicable, and as it dried up, sickness, particularly fever and cholera, were very rife and fatal."

As regards Terai fever, it is stated that some Europeans and Natives who live constantly in the Terai may have only slight attacks, but if they go up to Darjeeling they are almost certain to get fever of a much more severe type, running sometimes into remittent and continued forms with cerebral complications.

There are no remarks called for in regard to other diseases. But attention may again be directed to the large mortality from snake-bites shown in the present Report. It is true that this is not given separately, but is included among 9,046 deaths from wild beasts and snake-bites. It is evident that not much progress has yet been made in reducing this preventable death cause. There need be no difficulty now in distinguishing between venomous and non-venomous reptiles, and much good might be done and many lives saved by appointing suitable persons to superintend the destruction of the former in districts where they are most numerous and dangerous to the people.

The most important sections of Mr. Pilcher's report are those relating to sanitary progress, and to his own personal proceedings.

9. *Sanitary Progress.*—A very important step towards the sanitary improvement of the port and shipping of Calcutta was the one already mentioned, viz., the appointment of Surgeon-Major French as Port Medical Officer. He entered on his duties on 1st September 1875, which are as follow :—

1. To superintend the conservancy and sanitation of the port.
2. To board all vessels arriving in port with infectious diseases on board.
3. To inquire into disease among the shipping in the harbour, and into the sanitary condition of vessels.
4. To inspect pilgrim vessels before departure, and grant certificates upon which bills of health will be issued by the Commissioner of Police. "The Health Officer is required to devote his whole time to the duties of his office, and not to engage in private practice. He is also to be guided by the instructions of the Sanitary Commissioner."

It is not stated in what manner the advice of the Port Medical Officer is to be acted on, but it may be taken for granted that there is some executive authority, otherwise the appointment would lead to little good. Under these circumstances, it may not be out of place to enumerate a few practical points that may come under the notice of this new officer.

It may be safely stated that a properly managed ship, especially on the open sea, ought to be tenanted by as healthy a group of people as can be found anywhere in the world. And yet this is not always the case. On the contrary, ships have sometimes had sick and mortality rates far exceeding those of the worst quarters of unhealthy towns. This startling fact is the foundation of quarantine, which, until lately, was the means of levying excessive taxes on commerce. Twenty-five years ago it was calculated that quarantine delays and expenses in the Mediterranean alone amounted to four millions sterling per annum.

The idea of saving this vast outlay by dealing directly with the causes of it seldom occurred to men's minds. The sole fact recognized was that ships might sometimes be unhealthy, or that they might have sailed from unhealthy ports, and that, in either case, it was dangerous to permit intercourse with them, even although the ports claiming this protection were themselves suffering from the very diseases they wished to keep out.

Ports suffering from cholera have kept out ships arriving from other ports where there was none, merely because those ports were suspected. A worse result than the quarantine tax was that quarantine ports took little or no steps for their own improvement, and the people whose commerce suffered never thought of inquiring why ships sometimes carried pestilential diseases among crew or passengers.

A wisely and firmly administered port sanitary service has more in its power in dealing with such questions to protect other ports, to preserve the health of crews, and to save the losses inflicted by quarantine, than all the restrictive measures that human ingenuity can devise.

Let us see what are the usual causes of sickness on board ship. These are, bad and defective accommodation for crews, overcrowded, badly ventilated, and not clean; dirty ships; unwholesome cargoes, against the ill effects of which suitable precautions are not taken; foul unwholesome water; foul bilges, sometimes primarily caused by leakage of putrescent mud and water, and even sewage, in foul ports; want of sufficient means of cleanliness on board: bad articles of diet; sometimes, embarking persons suffering from infectious diseases.

Of late years there have been very considerable improvements in some of these matters, and comparatively little is now heard of ships carrying pestilential diseases on board. If the principle were adopted that certificates of health should be required to state that the ship, cargo, and crew had departed in health, and that all sanitary requirements had been complied with, or otherwise that the certificate should not be granted, and if, moreover, a similar inspection and certificate by the port sanitary authority were required at the port of entry, quarantine would soon cease to be heard of.

If security be taken that there are no known disease causes on board at the time of departure, and that none have arisen on the voyage from careless management, there would be nothing to fear, and the costs of delay from negligence would, in this way, very properly fall not on the whole commerce of a country, but on the property only of those persons who had neglected their obvious duties. Under quarantine law the innocent and the guilty suffer alike.

To complete the reform, the authorities in all seaports should attend to their sanitary improvements.

We must hope that as the metropolis of India has taken the lead in sanitary improvement in the eastern hemisphere, her authorities may also, under the recent port sanitary improvements, be able to set the example of successful treatment of questions of ship hygiene, and help to abolish the tradition of quarantine.

The introduction of ship hygiene on board Her Majesty's Indian troop ships has shown results which ought not only to be aimed at, but which, if intelligently followed up, would be realized elsewhere. These troop ships have practically solved the problem.

10. In the course of 1875 important progress was made in sanitary legislation in Bengal. The Bengal Irrigation Act which was passed in this year provides for carrying out works of irrigation and of general drainage connected with them, for removing drainage obstructions, and for the general conservation of all such works in the interests of the public health amongst other reasons.

The Calcutta Municipal Consolidation Act, passed during the present year, is said "to provide effectually for the maintenance and regulation of all the sanitary matters relating to the inhabitants and town of Calcutta."

At the date of Mr. Pilcher's report, a district Municipal Bill was under consideration which will give enlarged powers for sanitary purposes to town committees.

Existing laws relating to conservancy and improvement of towns, prevention of inoculation, &c., were extended.

In 1868 conservancy rules for villages and suggestions for the preservation of health were circulated. They were recirculated last year among the village communities, and it is stated that great benefit had resulted from this step. They are described as being "an exposition of sanitary truths in the simplest possible form," and direct attention to such matters as "over-crowding, accumulations of garbage, ordure, &c., in and about dwellings, carrying on of insanitary trades, converting of localities in the vicinity of habitations into latrines, sanitary evils arising from ditches and water holes, the pollution of water-supply, excessive growth of underwood and grass near houses, cremation and burial," precautions against cholera, &c.

Instructions on these matters for popular use have long been advised by the Army Sanitary Commission, and their circulation might be extended with great advantage all over India.

11. The following very important orders on sanitary procedure have been issued by the Lieutenant Governor of Bengal, for the guidance of district officers. After inspection of municipal town, Sanitary Commissioner to forward report to district officer, who will lay it, together with his own recommendations thereon, before the Municipal Committee, who will pass resolutions thereon and forward copies to Sanitary Commissioner, who, in his turn, will submit them with a copy of his report to Government. The Civil Medical Officer will report at the end of the year the extent to which the recommendations have been carried out. The Sanitary Commissioner to include this matter in his inspection reports.

A similar procedure is to be followed in non-municipal towns, and in villages, and much benefit may be expected from it.

12. As regards actual progress in improvements, it is most satisfactory to learn from the Report that "there are signs everywhere of activity in promoting minor improvements in connection with drainage, water-supply, conservancy, &c.," although few large costly sanitary works have been undertaken in municipal districts.

Burdwan is being thoroughly improved. Its conservancy arrangements are far in advance of other towns visited, and its water-supply has been improved.

Beerbhūm has been provided with a small-pox hospital, but it is scarcely satisfactory to learn that only one cesspit has been filled up.

Hooghly and *Chinsurah* have had their tanks improved, and considerable water-supply and drainage works are in hand.

In *Serhampore* district many tanks were deepened and new ones excavated. A simple engineering improvement in the Damooda has given the people water and prevented fever. Drainage has been carried out to some extent, and the Municipal Commissioners are fully alive on the subject of cleanliness.

In the 24-*Pergunnahs* cleansing is progressing, but the bustees require improvement. A number of tanks have been deepened and improved.

Moorsheadabad has had public latrines erected. *Dinapore* has been well cleansed, a latrine put up, and a municipal market erected. *Rajshahye* has received the benefit of a public garden and a school. The town is to be surveyed for drainage. *Rungpore* has a large scheme for district drainage before Government. At *Bogra* the water-supply has been improved.

The conservancy at *Darjeeling* has been improved, and loans have been applied for to increase the water-supply and drainage.

Much attention is being paid to the sanitary improvement of *Dacca*.

Considerable improvements are being carried out at *Chittagong* in better water-supply, closing old burial grounds and providing new ones, active conservancy arrangements, and a professional survey for drainage and embanking has been carried out.

Noakholly and *Tipperah* have been somewhat improved in water-supply and drainage.

Patna has had a swamp converted into a garden, but "the sanitary needs of this large town are very numerous," and little has comparatively been done for them.

Improvements have been initiated at a few other towns. It is satisfactory to learn that great efforts have been made to improve *Pooree*, in lodging-house regulations, conservancy, &c. The abominable tank has been cleaned out and protected.

13. Mr. Pilcher states that similar improvements are progressing in many other places. He gives details of inspections carried out by him of 16 municipal towns. Defects were noticed in drainage, water-supply, &c., and brief reports were presented on each. These reports show clearly the general direction in which improvements should be carried out, and when the whole system is in full operation under the orders already referred to, there will apparently be no difficulty in arriving at a proper estimate of the measures required for improving the public health in Bengal.

The inspection details are of more local interest, and must be left to the consideration of the local authorities.

This report, as a whole, is satisfactory. It is evident that sanitary improvement is occupying a considerable share of the attention of the Government, as well as of the municipal and other authorities in Bengal. The work to be done is very great, and all that can be said is that a very hopeful beginning has been made, and that Mr. Pilcher's proceedings and reports have apparently aided in the good work, by far the greatest part of which must, however, be done by the people themselves and by the village authorities, for no Government could undertake and find funds for carrying out all the improvements indicated as necessary in these Bengal reports. The Government itself appears to be moving in the right direction in these important questions.

29th May 1877.

No. 5.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the
SANITARY COMMISSIONER for the PUNJAB for 1875.

1. The vital statistics of the Punjab in 1875 are apparently based on the census taken in 1868, which gave the population at—

Males -	-	-	9,509,902
Females -	-	-	7,977,223
Total -	-	-	17,487,125

The following have been the annual numbers of deaths registered in the province since the census year :—

Years.	Deaths.
1869 -	453,821
1870 -	418,926
1871 -	363,378
1872 -	430,608
1873 -	357,153
1874 -	316,713
1875 -	447,208

So far as can be judged of by the figures, the year 1875 was a very unhealthy year. Dr. De Renzy thinks it probable that some part of the increase of deaths may be due to better registration in the municipal towns, but on the other hand there was a cholera epidemic during 1875, which caused 6,246 deaths, and the registered fever mortality underwent a large augmentation. It is true that little dependence can be placed on fever diagnosis in India, but, such as it is, there were 279,841 deaths attributed to fever, being an excess of 89,210 deaths over those of the preceding year, the state of the diagnosis remaining, no doubt, the same.

The death-rate during 1875 amounted to 25·57 per 1,000, a fact which, when tested by other facts, shows that the registration of deaths is far from being reliable.

This point is fully dealt with in the Proceedings of the Government of the Punjab on this Report, and as test facts the following death-rates for five towns, in which the Proceedings state that "the registration was probably fairly accurate," will show how much below the actual truth the death registration is at present :—

	Death-rate per 1,000.
Umritsur -	62
Delhi -	51
Lahore -	43
Peshawur -	45
Mooltan -	34

It is unnecessary to discuss the subject further, as it is receiving the attention of the Government, which will, no doubt, take practical steps for improving the registration. Even as matters are at present, the patent fact which has to be dealt with by sanitary works and measures lies within these enormous ascertained death-rates, which are, no doubt, representative cases, and could be reproduced all over the country.

2. The following table, extracted from the Government Proceedings, shows the chief registered death causes for the seven registration years already alluded to :—

Years.	Total Deaths registered.				
	Cholera.	Small-pox.	Fevers.	Bowel Complaints.	All others.
1869 -	9,258	53,169	272,946	30,953	87,495
1870 -	469	27,163	275,093	27,249	88,952
1871 -	369	25,534	213,548	21,678	102,249
1872 -	8,727	23,728	264,711	23,345	110,097
1873 -	148	25,699	219,909	19,640	91,757
1874 -	78	12,026	190,631	16,407	97,571
1875 -	6,246	13,594	279,841	27,550	119,977

This table shows that of late years cholera epidemics have recurred triennially, and the law might possibly have been traceable backwards had not the great epidemic of 1867 intervened, which caused 43,146 deaths in this province, besides a large mortality throughout the northern and north-western regions of India.

It is proposed to limit our remarks as closely as possible to the practical aspect of the information given by Dr. De Renzy about these diseases, beginning with cholera.

3. The following abstract shows the monthly incidence of cholera mortality in 1875 :—

	Deaths.		Deaths.
January -	4	July -	747
February -	4	August -	1,515
March -	4	September -	2,117
April -	10	October -	1,358
May -	41	November -	129
June -	316	December -	1

It is stated, "with some approach to certainty," that the deaths registered as due to cholera during the first four months were not cholera. Dr. De Renzy considers that these facts show cholera to be essentially a hot weather disease. A table in the Report containing the number of rainy days in each month shows that 70 per cent. of the rainy days took place in the four months June to October inclusive, in which the maximum cholera mortality took place. There was hence both high temperature and moisture during these months.

4. The purely local character of those outbreaks which taken together make up the epidemic mortality of 1875 is shown by the facts that, out of 487 registration circles in the Punjab, only 162, or about 31 per cent., were attacked, and that of 35,740 villages in the province no more than 808, or about $2\frac{1}{4}$ per cent., yielded cholera deaths, although no quarantine restrictions were applied.

Of the 808 attacked villages 582 had fewer than five deaths, and in 256 the mortality exceeded this proportion.

5. With these facts before us it is scarcely necessary to discuss cases of "importation," but as this matter is of practical importance in the Cholera Inquiry, it may be useful to deal briefly with the cases alleged in the present Report.

The following case, in which the dates are given by Dr. Whitwell, will illustrate the character of the evidence adduced in favour of importation.

In Umritsur district there are 107 towns and villages, which yielded 1,268 cholera deaths.

The first case was in June, and the months of maximum mortality were August (504 deaths), and September (583 deaths). Umritsur was attacked in July (26 deaths), and had 402 deaths in August. Under this distribution of the epidemic the alleged importation took place at Kohali, 14 miles from Umritsur. On the 31st August a Sikh traveller arrived at the rest house at Kohali. It is not stated whence he came or what was his state of health. He might have come from an unaffected district in good health. Next day, however, this man was taken ill, and died of cholera. Five feet from the rest house is an unprotected well, from which, it is presumed, the man got water. The day after his death, namely, on the 2nd September, cholera appeared in the village, and 24 deaths out of 722 people took place. Every one of the cases took place in people who used the water from the rest house well. Dr. Whitwell asks: "Am I exceeding the bounds of probability in saying that this solitary traveller alone, friendless, unattended, must have contaminated the water of this well in his efforts to obtain water? . . . so that, as far as it is possible to show, here was an undoubted instance of cholera being propagated by water pollution."

One undoubted fact is that cholera was epidemic all over this region of the Punjab. Another fact must be acknowledged, that only the people, including this traveller, who drank of the same well had cholera. The villagers using other three wells escaped.

On consulting the dates, however, we find that the presumed effect, viz., the attack of the villagers, followed on the traveller's illness and death after a few hours only.

The traveller was attacked on the 1st September, the first villager on the 2nd September. There was hence no time for incubation. In the absence of several important links, among others, the real condition of the well, another question may be asked, namely, does not the evidence as it stands rather lead to the idea that all the cases, including that of the traveller, were due to impure water? But before this view could be accepted it would be necessary to show that the water was impure, that the traveller had made use of it, and that the inhabitants who supplied themselves with water from the well were exposed to no other local causes than those common to the rest of the villagers.

A similar account is given of the introduction of cholera into Umritsur itself. The first case occurred on July 26th in a Cashmiri Mohamedan, and to this body of people the disease was at first confined.

The following was the presumed origin of cholera in Umritsur. "A roaming fakir of Jummoo" (there is no evidence that cholera was then in Jummoo, or in any place through which the man had passed) arrived in the city "just previous to the outbreak" (no date given), and took up his residence in a mosque, and died there 36 hours afterwards with all the symptoms of cholera." But "this case was not seen by a medical officer." His quarters in the mosque were within "a few feet of the well," the mouth of which had no parapet, and "the probabilities are, therefore, that the man's discharges were washed into the well and poisoned the water" (on this point there is no evidence whatever). The Cashmiris used the water from this well, and they were the first to suffer from cholera. There were 80 cases among them; but the total deaths in Umritsur were 756.

These two instances give the circumstances more in detail than other cases of presumed importation, which may be said to amount to simple coincidences, communication of the disease having been adopted not as proved, but as explaining the phenomena.

For example, a man arrives at Delhi from Kurnool on May 10th (where there was no cholera, as shown by the statistics). He is seized with cholera at Delhi, where cholera appeared on May 6th, four days before his arrival. The man was attacked on the 10th, and his son on the 14th. Surely there is nothing in this to prove importation.

It would serve no good purpose to discuss these cases further. We must refer again to our Instructions for the cautions to be observed in investigating such cases, and the present cases only serve to show how difficult it is to keep all the points in mind at the time, and to avoid what afterwards appear to be very obvious sources of error.

6. So far as any practical results have followed from examination of instances of presumed infection in the Punjab, these may be briefly summed up in the following words of the Proceedings of Government on Dr. De Renzy's Report: "In the remarks of the Sanitary Commissioner upon the little value of quarantine as a safeguard against cholera the Lieutenant Governor entirely agrees." The system of quarantine, except under the most exceptional

“ circumstances, the Lieutenant Governor considers to be altogether mischievous and injurious.” He is, however, not unwilling to give this method of protection a fair trial in special cases, which is indeed the very most that can be said on behalf of the system.

It need only be added that the experience of 1875 showed that quarantine restrictions were of no use in any part of India. Of this truth a striking confirmation is given by the Lieutenant Governor in the case of Murree in 1876, which, being a large and important military station, was included in a strict quarantine, until after cholera had actually broken out among the children at this station. The case was inquired into by the Officiating Sanitary Commissioner whose report of 3rd November 1876 states the following conclusions:—

“ 1st. That the disease was *not imported* into Murree, but originated there spontaneously.
 “ 2nd. That it was localized there. 3rd. That it spread by means of atmospheric agency, aided
 “ by direct action of its specific dejector from the human body.”

The report itself has not been printed in the Punjab Report for 1875, so that there is no evidence; only the conclusions are given, and no remark can be made on them except the one practical conclusion which may be put as a question, viz., “ Why, in so fine a climate and position, “ 8,000 feet above the level of the sea, was cholera there at all ? ” It is an old disease at Murree, and this special report will no doubt clear up points on which light is very much wanted.

7. In the meantime here is an account of an infected cholera village which Dr. De Renzy says may be taken as a fair type of the villages of the Punjab at large:—

“ Manure heaps and collections of cowdung all around and in the village itself. Houses full of “ rubbish of every sort. Streets and lanes filthy. A hole containing stinking black water in the “ sweepers’ quarters, and two small shallow tanks near the wells filled with foul water. There “ were three wells in the village, the water of which is used for drinking purposes; the water “ was found to be good in colour and taste, and free from any smell.” (It does not follow that the water was not poisonous.)

For practical purposes this account is worth any amount of discussion about causes of cholera, but it suggests a very obvious question, namely, whether the existence of such a state of things is consistent with avowed sanitary administration?

It may be suggested for consideration whether the vaccination service together with the civil medical service might not be employed in aiding village improvements while on tours of duty, as is now being tried in other parts of India. The villagers and their officers might in this way be instructed in measures for protecting their own health, especially if a few printed rules in the vernacular were circulated, to explain the great dangers of the present condition of villages and the means of removing them.

8. In the Punjab, as in other districts of India, any hope of protection from cordons or quarantine may be considered at an end, and all that now remains to be done is to discard theoretical measures, and to turn to real sanitary work. In furtherance of this object the following sanitary notes, abstracted from the district cholera reports, may be safely taken as guides towards a consistent plan of sanitary improvements so far as they go.

Delhi.—“ The first known cases of cholera in the Delhi district occurred in the city of Delhi “ among a body of chumars (tanners) inhabiting one of the dirtiest quarters, called the ‘ Kali “ Musjid Ward.’ ” The state of this part of Delhi, and its relation to cholera outbreaks among the chumars, has been long known, but hitherto little appears to have been done to improve it.

Simla.—A brief account of the Simla outbreak has been included in our remarks on the Report on Cholera of the Sanitary Commissioner with the Government of India. The following is Dr. De Renzy’s estimate of its sanitary condition:—

“ I inspected the sanitarium in April, and its condition appeared to me then to be extremely bad. “ The public latrines were indescribably foul, a sickening stench, arising from the filth-soaked “ wooden drains and cesspool tubs, pervaded the bazaar, and the water-supply was so scanty that “ people had to wait at the reservoirs for hours before they could fill their water vessels. There “ was not a single source of water-supply even moderately safe against the foulest pollution. “ Water being so scarce, it need hardly be said that the poorer classes are most filthy in their “ persons and dwellings.” Nevertheless the Chemical Examiner pronounces the water “ very good,” an opinion which possibly may be explained by the water pollution taking place at irregular times. The analyses of samples, if correctly printed, would go to show that Simla possesses the softest and purest water anywhere supplied for use. But the Sanitary Commissioner interprets the results as showing that Simla water, so far as regards albumenoid ammonia, “ is just on a par with the Thames water at London Bridge.”

In 1869 *Umritsur* had 3,012 cholera deaths. Since that time two huge holes “ which served as a receptacle for town sewage ” have been filled up. The cholera deaths in 1875 amounted to 756, just a quarter of the former epidemic rate. The reduction cannot, however, be accepted as decided proof of sanitary progress. The outbreak of cholera in 1875 was connected with impure water, and the present Report states a fact which no doubt is unfortunately too common all over India, namely, that the mud floors of houses become contaminated with cholera matter, and the poor people still remain crowded in their dwellings. Some remedy should be found for this dangerous habit, more efficient than the present “ disinfecting ” proceedings. Could not the floor mud be at once dug up and removed, and its place supplied by fresh rammed earth, which is the cleanest and best “ disinfectant ? ” No proceeding which leaves the earth fouled by excreta on the floor can ever obviate danger.

An illustration of the importance of this matter is given in a careful investigation made by the Sanitary Commissioner into an outbreak of cholera in *Lahore Lamentic Asylum*, which resulted in every probable cause of the persistence of the epidemic being discarded except the pollution of the floors. The practice was to scrape the surface, but, considering the absorbent nature of the material, nothing short of digging away the surface and replacing it with clean earth would be likely to answer, except leaving the place altogether.

In another instance, *Lahore Central Jail*, there was another source of danger. The prison excreta are deposited in the prison garden, the drainage from which had access to the wells, and reappeared as ammoniacal and chlorine compounds in the water.

It must be repeated here, what has often been said, that sewage matters ought never to be buried at all near dwellings or water sources, and only at a safe distance when mixed with earth in covered water-tight receptacles to prepare them for agricultural use, and that, when fresh excreta are applied as manure, the amount must be no more than would be made use of by a skilled agriculturist.

9. These are the chief points of importance connected with defective local conditions stated in this Report, and the remark must be made that the local reporters appear to have been much more occupied with questions of "importation" than with removable sanitary defects, which latter occupy a very small space in the reports on cholera in 1875.

10. *Small-pox*.—When tested by the declining annual mortality from small-pox, there is no part of India in which the success of vaccination has been more marked than in the Punjab. Leaving out fractional parts, the following numbers represent the annual small-pox deaths in thousands since 1866,—30, 20, 24, 53, 27, 25, 23, 25, 12, 13.

These are rough averages for the whole country. But the death-rates differ in different districts, and the reasons are assigned by the Sanitary Commissioner as follow :—"In the districts south of the Sutlej, where the Hindoo element greatly preponderates in the population, the prejudice against vaccination continues very strong, and in them also the mortality from small-pox continues great. In Jullundur, Gurdaspur, and other districts the people have become so sensible of the advantages of vaccination that it is not uncommon for them to send in petitions to the district authorities to send vaccinators to vaccinate their children. In these districts the small-pox mortality is trifling."

The greatest small-pox mortality registered in any one district was in Gurgaon, where Sitla, the goddess of small-pox, has a famous temple.

11. *Fevers*.—The Sanitary Commissioner dismisses the enormous registered fever mortality in a few lines, without discussion as to its causes, on account of inaccuracy in the diagnosis. The Lieutenant Governor very properly calls attention to this deficiency, and points out that, "what-ever mistakes may be made in registration by inefficient persons, there is no doubt that the mortality from fevers of what is called the paroxysmal type, due to malaria and a defective drainage, is in certain years enormous," and he considers that the attention of the Sanitary Commissioner might be directed to this circumstance, especially as regards the Jullundur Doab, where fever "reached its height in the town of Jullundur, where upwards of 500 people died in a single week in the present summer out of a population of 33,673," due, in the popular belief, "to the country having become water-logged, the height of the water in the wells having risen 2 or 3 feet, and that the only effective remedy is thorough drainage."

The statistics show that fever deaths were registered in every district of the Punjab in 1875, and that no less than 16 per 1,000 of the population died from this assigned cause. In one district, Hoshiarpur, with a population under one million, the registered fever death-rate was 25·13 per 1,000. In Jullundur district, already referred to, it was 21·49 per 1,000. In Jullundur town the fever death-rate was nearly 25 per 1,000. In Dasuya, a town of 8,453 inhabitants, in Hoshiarpur district, the death-rate assigned to fever exceeded 10 per cent. of the population. In Kamalia, a town of 5,695 inhabitants, in Montgomery district, the fever death-rate was 68·83 per 1,000. These represent some of the highest death-rates in 188 registration circles and towns. But it is a very important fact, in any inquiry into the local causes of these enormous losses from fever, that there are circles and towns within which the death-rates are by no means so high. For instance, in Abbotabad cantonment, with 2,894 inhabitants, there was only one fever death. At Murree there were 16 fever deaths out of 10,605 inhabitants, equal to a death-rate of 1½ per 1,000. In the same Hoshiarpur district in which Dasuya, with its 10 per cent. fever death-rate, is situated, the town of Anandpur shows a death-rate of 7½ per 1,000; and in Jullundur district, with its fever death-rate of nearly 21½ per 1,000 there are two towns showing rates under 10 per 1,000. The practical result of these contrasted rates is to show the necessity for strict local inquiry into the local causes of these losses of life from fever. It would be better, in following out the proposal made by the Lieutenant Governor, to concentrate attention on a few localities, as was done by Mr. Planck in similar investigations in the North-West Provinces a few years ago. If this course were followed in the Punjab, where extensive irrigation works have been carried out, there is every reason to hope that results as practical as those arrived at by Mr. Planck would be obtained through the well known zeal and ability of the Punjab Sanitary Commissioner. We concur, nevertheless, in Dr. De Renzy's view as to defects in fever diagnosis, but there is no help for this at present, and all that can be done is to take the *prima facie* case as it stands in the statistics, while in dealing with a few special cases in this way the exact nature of the diseases registered as "fevers" might possibly be ascertained.

12. Among death causes requiring notice, 979 were registered from snake-bite, against 930 during the preceding year. Nothing appears to have been done, as yet, in destroying snakes in this province. There were 162 deaths from hydrophobia in 1875, and 173 in the preceding year, —an enormous mortality from this cause.

13. *Sanitary Progress*.—The municipalities are engaged in carrying out the current sanitary work, but there is not much to report in the way of permanent improvement during the year.

Delhi has spent 5,509% on sanitary measures, and 3,088% on roads and bridges. The water-supply scheme is in the process of settlement, and we agree with the municipal authorities that 10 gallons per head per day would not be sufficient for the drainage requirements of the city.

Lahore has had a water-supply and drainage scheme under consideration. The former is sanctioned, but there appears to be some difficulty with the drainage scheme, on account of a proposal

to make the sewers large enough to carry off excessive floods, or $\frac{3}{4}$ of an inch of rain per hour. There is a table of rainfall in the present Report, which shows that in 1875 there were only 26 rainy days in the year, and that the greatest rainfall in any one day was 6·2 inches. The total rainfall for the last seven years at Lahore is given in the table as follows:—

	Rain (Inches).
1869	20·1
1870	9·2
1871	8·7
1872	20·3
1873	19·2
1874	15·0
1875	33·2

The proposal is to keep the house sewage out of the sewers, and to adapt them to carry off an occasional flood, the probable recurrence of which may possibly be estimated from these data. In this way, an enormous outlay would have to be permanently incurred for an occasional flood, which might possibly be provided against by surface drainage and improvements, while in the intervals between the rainy days the whole sewage system would generate sewer gases from the deposit left by dirt and street washings, and all the time the city would be as much in need of sewerage and drainage as if the expenditure, estimated at 47,233*l.*, had never been incurred. We must again repeat what has often been said on this subject. In India, provision should be made for exceptional rainfall by surface drainage, and in cities the sewers should be devoted chiefly to removing domestic sewage and foul water, and their dimensions should be proportioned to the work they have to do. On the facts as they stand, Dr. De Renzy was apparently justified in withholding his approval from the scheme, which, indeed, appears to require reconsideration.

Rawul Pindie is in great need of a water-supply, and a scheme, involving an outlay of 20,000*l.*, is under consideration.

The water-supply of *Peshawur* has got the length of settling and filtering tanks, but it is not yet decided by the civil authorities whether the water is to be extended to the city, or whether the new water-supply will only be limited to cantonments. The authorities appear not to be convinced that the city surface wells are insufficient. It will be a great advantage to have the water for cantonments, but if the city authorities have doubts as to its necessity, it may be suggested whether they might not advantageously have the wells on which they depend examined, and their water submitted to chemical analysis. As the facts stand, the sooner the city is supplied with water, the better will it be for the public health.

A list of 27 towns is given in which a few sanitary improvements have been carried out, chiefly surface improvements, cleansing wells and tanks, latrines, paving, levelling, filling up holes, &c.

All this is in the right direction, but the excessive death-rates in some of the principal centres of population, already referred to, are sufficient to show that the evils lie deeper than the mere surface. The following abstract will show the proportion of death causes in 1875 in the first four cities in the list already given:—

	Ratio of Deaths per 1,000 of Population.				
	Cholera.	Small-pox.	Fevers.	Bowel Complaints.	All causes.
Umritsur	5·53	·06	33·19	3·50	62
Delhi	·40	1·01	23·81	3·74	51
Lahore	·43	1·31	27·83	2·00	47
Peshawur	—	9·99	15·37	2·20	45

There can be no mistake about the importance of the local causes which predispose to fever in these towns, the statistics of which are considered reliable. These causes ought to be brought to light, and dealt with. In the Punjab, as in other parts of India, it will be most advantageous, probably, to get a few bad cases in hand, where there are municipal authorities, as soon as possible, for the obvious reason that experience obtained in this way teaches a far more direct lesson than mere repetition of principles.

14. The case is different, however, with village populations, who have to do most of their own work, and it is with pleasure the Commission quotes the following paragraph from the present Report to show one excellent step which is being taken with these cases. Dr. De Renzy says:—

“Under the orders of His Honour the Lieutenant Governor, I held conferences with 18 district committees, with a view of impressing upon them the necessity of improving the sanitary state of villages under their respective jurisdiction. In fulfilment of my instructions, I prepared a pamphlet describing the history and embodying the elementary principles of sanitary science, and I gave at the meetings ocular demonstrations of the effect of sewage on water. The course of procedure followed was that the pamphlet was first read, and afterwards demonstrations made in proof of some of the statements contained in it. The members were then encouraged to ask questions and to offer any objections that occurred to them. The objections were then discussed patiently and considerately. I made no attempt to commit the meetings to any hasty resolutions, but asked them to think over what they had heard and seen, and a copy of the pamphlet was presented to each member. I was most agreeably surprised at the interest which these meetings seemed to excite, and the pamphlet has been in such request

" that it has been necessary to print 22,000 copies of it for circulation among the village population The conferences lately held will, I believe, ultimately be of the greatest use in directing the minds of the people to sanitary evils of which they had previously no conception."

The interest taken in this work by the people themselves is perhaps the best guarantee for its resulting in ultimate good. Dr. De Renzy deprecates any attempt at forcing improvements on the people for which they are not prepared, but it may be suggested whether the proposal already made of enlisting the vaccination officers and civil surgeons in the work might not be a practicable step in advance. Both classes of officers are recognized by the people as acting for their good, and it seems that on this basis the village populations and their officers might be disposed to act on advice given them regarding cleansing of villages and houses, removal of nuisances, filling up water holes and levelling surfaces, protecting wells and tanks and the like from pollution, and in this way much useful work might possibly be accomplished without pressure.

15. There are one or two other points to which attention may be called.

The jail mortality in the Punjab was very high in 1875. In 30 jails it averaged 32 per 1,000, of which only 1·18 was due to cholera. The lowest death-rates were 7 per 1,000 at Gujerat and Kohat. From this ratio the death-rates ascended to 8, 10, 18, 24, 33, 44, 59, 109, and 140 per 1,000.

The chief death causes were,—

Intermittents and remittents	-	-	-	-	94 deaths.
Dysentery and diarrhœa	-	-	-	-	110 "
Pneumonia	-	-	-	-	98 "
					202 "

The total deaths were 456. The chief death causes point to the need of inquiry as to their origin.

16. The Lawrence Asylums gave the following results during 1875.

In the Asylum at Murree there were 50 inmates between 5 and 10 years of age, 82 from 10 to 15, 11 from 15 to 20; in all 143. There were two deaths among them, one from measles.

In the Asylum at Sanawar there were 175 children at ages under 10, there were 211 between 10 and 15, and 45 between 15 and 20; in all, 431 inmates. Amongst these there were 4 deaths among boys and 6 among girls. The following were the death causes :—

Enteric fever	-	-	-	-	4
Epilepsy	-	-	-	-	1
Heart disease	-	-	-	-	1
Respiratory ditto	-	-	-	-	1
Dysentery and diarrhœa	-	-	-	-	2
Others	-	-	-	-	1
					10
Total	-	-	-	-	10

The most noteworthy fact in the statistics of these schools is the absence of enteric fever at Murree and its presence at Sanawar. A number of years ago attention was called to this fact, and to the very probable origin of the disease in water polluted by filth. Nothing appears to have been done to remedy the evil, for Dr. De Renzy says that "the water-supply of the institution remains in the unsatisfactory state described in previous reports."

Dr. De Renzy suspects impure milk as a cause, but there is no source of this kind which does not probably exist at Murree. He does not think the evidence against milk sufficient, but there can be no doubt, from his account of the places it is got from, that it cannot be quite good. It may be suggested whether these institutions might not provide their own milk. As far as regards the water-supply, it may be safely stated that Sanawar Asylum will not be free of enteric disease until good water properly distributed is provided for the children.

17. These are the chief points of practical importance in the Punjab Sanitary Report for 1875.

It was natural that the cholera epidemic, and the contested questions connected with it, should have occupied a prominent share of attention, but the losses from cholera, when compared with the losses from constantly acting death causes, especially those included under the designation of "fevers," show that future progress in sanitary improvement must be mainly in two directions,—

1st. In grappling with the enormous death-rates in the chief towns and cities, especially those attributed to fevers.

2nd. In selecting for improvement special localities where the fever death-rates in suburban and rural districts point to water-logged subsoils, the rise of the subsoil water level from irrigation, and possible pollution of the well water. So far as can be judged from the facts, the best course to take with such cases would be the one already followed in the North-West Provinces.

Other matters of detail already in hand may be left to the judgment of the Sanitary Commissioner, whose practical work, especially in creating a public opinion on behalf of local improvements, is worthy of commendation.

30th May 1877.

No. 6.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORTS of the
SANITARY COMMISSIONER for the NORTH-WEST PROVINCES for 1874 and 1875.

As these two Reports have been referred to the Army Sanitary Commission at the same time, it is thought advisable to include the remarks of the Commission on both Reports in the same Memorandum. The cause of the delay in issuing the first Report is explained in the appended Government Letter as having arisen from important points on the questions of irrigation and drainage, necessitating inquiry in the Irrigation Department, having been brought forward by the Sanitary Commissioner. The Reports taken together contain information on the sanitary state of these provinces, and on steps taken for removing disease causes, of great interest and importance to the progress of public health improvements, not only in the North-West Provinces but in other districts of India.

1. Assuming the population of the North-West Provinces at 30,769,056, the registered mortality gave a death-rate for 1874 of 21·82 per 1,000, and for 1875 of 21·8 per 1,000. These rates are, however, below the real death-rates, and only indicate the deaths registered during these two years. The registration is improving, but Mr. Planck, the Commissioner, says that he does not, "as a rule, endeavour to prove anything by the mortuary figures," and that "it is bad ground to tread upon yet." This is quite true, and it must necessarily be the case in any country into which such records have recently been introduced. In cantonments, excluding instances of neglect, the death-rate for 1875 was 23·32 per 1,000, a better result. On the whole, the registration appears to be improving, although the numbers of deaths registered in one part of the country are still double the numbers registered in another. Mr. Planck ascribes the deficiencies of registration to the want of trustworthy agency for the report to the registrars of deaths which have happened, especially in rural circles, each composed of many villages, sometimes as many of which as 200 report to one centre. The total circles furnishing returns monthly amount to 879. But an important fact is that the town circles, with their machinery, are able to report death-rates averaging 31·70 per 1,000, while the rural circles averaged only 21·07 per 1,000. Notwithstanding the obvious deficiency in both results, especially as regards the rural circles, the fact that so many deaths have been reported to the registrar is by no means discouraging for future progress in vital statistics. The wonder is that so much progress has been made in this important department of public health; while the increase of reported deaths, with the better arrangements possible in town districts, holds out a prospect for similar results being attained in rural circles when the registration arrangements are in better working order. This matter must be left in the hands of the Government.

2. The chief practical interest in these mortuary statistics lies as usual in the death causes, the classification of which partakes, of course, of the inaccuracy incident to the registration itself. But, making any reasonable allowance for such deficiencies, the facts disclosed in Mr. Planck's Reports are of great public importance.

3. Take, for example, the following registered fever deaths for the last five years in the North-West Provinces:—

Seasons.	Registered Deaths from Fever.					Total.
	1871.	1872.	1873.	1874.	1875.	
Cold - - -	158,340	168,357	152,657	154,260	152,902	786,516
Hot - - -	101,198	118,725	125,670	107,366	132,061	585,020
Rains - - -	162,293	203,354	180,025	187,962	171,522	905,156
Total -	421,831	490,436	458,352	449,588	456,485	2,276,692

During the five years 1871-1875 there died above 2¼ millions of people in these provinces from diseases registered as "fevers." The following abstract of the table gives the percentage of total fever deaths according to season:—

		Percentage of Fever Deaths.				
Hot season	March	-	-	-	-	26
	April	-	-	-	-	
	May	-	-	-	-	
	June	-	-	-	-	
Cold season	January	-	-	-	-	35
	February	-	-	-	-	
	November	-	-	-	-	
	December	-	-	-	-	
Rains	July	-	-	-	-	39
	August	-	-	-	-	
	September	-	-	-	-	
	October	-	-	-	-	
						100

The fever mortality varies greatly from year to year in different registration districts. Three of the most unhealthy in 1875 were Terai, where the fever deaths per 1,000 living amounted to 27.99; Bulandshuhr, where the fever death-rate was 24 per 1,000; and Meerut, where it was 21.01. These figures show the great losses sustained from fevers in certain districts of the country, and the need of strict inquiry into their local causes. The Northern and Central Doab had death-rates in 1875 ranging from 16.39 to 24 per 1,000 living from fever alone.

None of the reports from India contain an account of these fevers. That the great part are of malarial origin appears to be beyond question, but it seems doubtful whether ague is attended by such fatality as these abstracts show. Additional light on the subject appears to be thrown by the following observation of Mr. Planck, who says:—"Certainly continued fever is a disease of the North-West Provinces, and is not difficult to find in any centre of population much noted for filthiness, and especially where animal remains are allowed to decay in close proximity to the houses, or where in a year of scarcity poverty has very much pinched the people. But this form of fever is more common about the close of the cold season, and, I suspect, during the hot season." When it is remembered that the fact has only recently been recognized that the fatal fever of British troops serving in India is typhoid fever, and that enteric fever does show itself among Native troops, it may be here suggested, as matter of further inquiry, that possibly much of the mortality from these fevers may be due to enteric fever, and some to relapsing fever.

This suggestion is not intended to call in question Mr. Planck's opinion regarding the Doab fever, "that it prevails at the time of the drying up of the rains in August, September, October, and November," and hence is indicated as of malarial origin.

This is another problem, and one distinctly connected with the drainages of the country.

4. The Doab has been the seat of great irrigation works. The amount of water passed into the subsoil has been sufficient, not only to increase the fertility of land, but to saturate the subsoil with water to such an extent as to occasion a gradual rise nearer the surface of the subsoil water-level, to injure the purity of wells supplying water for domestic purposes, to give rise to swampy ground, and, as is alleged, to cause great sickness and mortality among the population.

In addition to facts on this important matter supplied by the Sanitary Commissioner, he has inserted two reports by Dr. Moir, Civil Surgeon at Meerut, in which the causation of these Doab fevers assigned by Mr. Planck is called in question on certain statistical grounds, which amount to an averment that the registered fever mortality has not always borne a definite relation to the proximity of the districts to irrigation lines. The points raised are similar to those raised in Madras a number of years ago on the Godavery fever. The *prima facie* reply is the same in both cases, and is not that excessive fever death-rates have or have not a defined topographical relation to drainage works, but that they exist at all. Why are there these excessive death-rates? What is their cause? How are they to be prevented or removed?

Dr. Moir's reports appear to be directed against certain opinions prevalent in the country that these fevers have been caused by irrigation. Such opinions, if they became operative, would destroy irrigation works all over India and render many districts unproductive, and Dr. Moir is quite justified in challenging those who hold them to the proof. He shows that these fevers existed before irrigation works existed, and that they are found where such works have never been carried out. All this is quite true, but it scarcely touches the question at issue, which is this. In a country where malaria prevails, and where the drainages have not been improved, what is likely to be the result of carrying over it extensive irrigation works, some of them cutting across the natural drainage lines and obstructing them, and pouring water on the surface and into the subsoil in quantities far in excess of what is needed to supply the wants of vegetation?

There can be but one answer, that given by Mr. Planck and practically by Dr. Moir himself, viz., that the subsoil will become saturated with water, the wells injured, and the surface, without perhaps even visible appearance of water, will be converted into a swamp, and of course the usual results to health and life will follow, but not necessarily in these precise localities where the evils are most apparent.

5. To all assertions about the economical results of irrigation works it is imperative to reply that in future the cost of such works should include the costs of drainage of the country to be irrigated. This must either be done at the time, or, if it be neglected, the neglect must be repaired at great outlay, and consequent disappearance of profit, and after great sacrifice of human life. The Government of the North-West Provinces is now actively engaged at large outlay in draining away the excess of water supplied by irrigation works; a measure which will not only improve the public health, but will improve at the same time the produce of irrigated districts.

One of the concluding paragraphs of Dr. Moir's report may be cited as a practical reply to opponents of irrigation, and also to those who would carry out irrigation while ignoring its necessary accompaniments. He says:—"It is most fully conceded here, and without any reservation whatever, that good drainage is the panacea for malarious fevers, as all experience teaches. This is allowed on all hands by all who are in a position to form an opinion on the subject. The object of these memoranda, however, has not been to inculcate this well-known truth, admitted as it is by everyone, but rather to expose the groundlessness of the statements made with such confidence on many sides that canal irrigation has caused fever."

There is, hence, no real difference of opinion on the practical remedy for malarial fever, and nobody disputes the advantage of irrigation accompanied by drainage in all districts where water for agricultural use is required.

6. In the present state of registration the precise influence comparatively of local disease causes must be arrived at in the way stated by Mr. Planck, who says:—"I believe the truth can be learnt in respect to this matter only by actual inspection of places where the fever death-rate is known to be great, and as I have over and over again seen the dampness of floors and walls which has resulted from the rise in the spring level in these places, have over and over again heard the

“ bitter complaints of it from all classes of people as a cause of frequent sickness and death, I am unable to resist the conclusion that the dampness is the principal cause of their trouble.”

It appeared to be necessary to notice these points, before proceeding to show what is being done in the way of improvement in drainage, with special reference to existing irrigation works, but as these malarial fevers prevail over the whole country they can only be effectually dealt with by improved agriculture, including the necessary drainage works.

7. *Cholera*.—During 1875 cholera prevailed over India as a great epidemic, and its ravages were extended over the North-West Provinces, as will be seen from the following abstract, showing the movement of cholera mortality in these provinces for the last 11 years :—

Deaths from Cholera.					
1865	-	-	-	-	76,322
1866	-	-	-	-	8,175
1867	-	-	-	-	57,837
1868	-	-	-	-	20,680
1869	-	-	-	-	90,770
1870	-	-	-	-	13,123
1871	-	-	-	-	3,473
1872	-	-	-	-	50,565
1873	-	-	-	-	15,268
1874	-	-	-	-	6,396
1875	-	-	-	-	41,106

We know little as yet of the laws which determine the intensity of epidemic cholera, but it is not an unimportant feature in this record of mortality that the aggravations of the disease have been less intense during the latter than during the former years of the series, and that the total mortality has diminished. Thus, during the five years 1865 to 1869, the registered cholera deaths amounted to 253,784, and during the six years from 1870 to 1875 the deaths were 129,931. It is not unlikely also that, since the introduction of death registration, the numbers registered during the last six years have approached much nearer the truth than those of the first five years of the series.

8. The next abstract shows the prevalence of cholera mortality in relation to season for the last five years :—

Seasons.	Registered Deaths from Cholera.					Total.
	1871.	1872.	1873.	1874.	1875.	
Cold - - -	596	1,526	676	860	1,452	5,110
Hot - - -	1,833	30,937	6,124	565	18,160	57,619
Rains - - -	1,044	18,102	8,468	4,971	21,494	54,079
Total -	3,473	50,565	15,268	6,396	41,106	116,808

The effect of climate on the intensity of cholera is very evident from this table.

When reduced to a common percentage, the ratio of deaths for each season to the total deaths gives the following result :—

				Percentage of Cholera deaths.
Cold season	{	January -	- - -	4.37
		February -		
		November -		
		December -		
Rains -	{	July -	- - -	46.3
		August -		
		September -		
		October -		
Hot season	{	March -	- - -	49.33
		April -		
		May -		
		June -		
				100.00

As shown above, the deaths from cholera in 1874 were 6,396; and the following is the account given by Mr. Planck of the progress of cholera in 1875 :—“ During 1875 cholera disease prevailed in all parts of the province excepting Jhansi and Lalitpur in the south, and Kumaon in the north. During the months of January and February a few sporadic cases occurred in all parts of the province. In March the disease commenced to be epidemic in the eastern districts, Basti, Benares, Mirzapur, Jounpur, and Allahabad. In April the disease had become epidemic in all the eastern districts. In May the influence had extended to nearly all the central and western districts. During June, July, and August this extended prevalence continued, the mortality nowhere very severe. In September and October the prevalence declined in the eastern, while it increased in the western districts. In November the disease prevailed to any extent only in Rohilkund, and in December only in Basti.”

The special characteristic of the epidemic of 1875 was its universal diffusion over the provinces accompanied however by a tendency to concentrate its severity on particular rural circles, and chiefly in certain areas within these circles. A list of 24 severely affected areas is given by Mr. Planck, within which the deaths to population were between 5 and 16 per 1,000. The disease prevailed at the same time in districts separated from each other by 6 degrees of longitude and 5 of latitude.

9. The most important element for practical purposes is the distribution of cholera within the circles, but up to the present time little information has been recorded under this head. The following facts are, however, stated by Mr. Planck. In Amora circle of Basti 60 villages in its south-eastern quarter were attacked. In Pilkhuwa circle of Meerut the deaths occurred in 10 villages, and one-fourth in one village. In Banda district there are 1,231 centres of population (villages), of which cholera attacked 220; in only 26 villages were there more than 10 deaths recorded. The attacked villages were in three groups, and in many instances those on contiguous lands were attacked. Mr. Planck states that centres of population situated on or near lines of traffic were very often affected. This must be true wherever cholera is diffused over a country where there are lines of traffic, but a glance at the map shows that the most severely affected districts were very often removed from the main road and railway lines. They appear to have had more relation to river banks.

There are no new facts bearing on the vexed question of spread of cholera by personal communication. Many years ago this Commission prepared instructions for the Indian Cholera Inquiry, in which special attention was directed to this subject, but it is a noteworthy fact that, although cholera has prevailed more or less over India ever since, not a single occurrence has been brought to light of which it can be said that here we have been able to trace in one instance at least the importation of cholera from one part of a country into another. The evidence up to the present time is beyond a doubt that, if cholera is spread in this manner, the process has not been detected, although, if it were the means by which an epidemic is diffused, it should be above all facts the one most frequently observed about cholera. Mr. Planck has a suspicion that cholera may be spread by human intercourse, but this is scarcely justified by the alleged facts. He states that the first deaths in Banda district (there are 35 districts in all) took place on 10th April on the east of the district, on the 22nd April in the centre of the district, and on the 25th April in the west, and that the villages were attacked in the most irregular manner, not to be explained by atmospheric causes, but possibly by "chance movements of mankind" (the very point which it is so desirable to settle). On the other hand, the district statistical table of cholera deaths shows that cholera existed in January 1875 in 13 out of 35 districts at long distances from each other. The only way to lay the foundation for better knowledge of this disease is to follow some such course as Mr. Planck himself proposes, viz., to map correctly the course of the disease.

To show even in one district all the villages attacked, with the dates of attack, and all the villages exempted, would afford important information as to the laws of cholera.

10. *Small-pox*.—The following abstract gives the small-pox mortality for the North-West Provinces, arranged according to seasons, during the last five years, including those in the present Reports:—

Seasons.	Registered Deaths from Small-pox.					Total.
	1871.	1872.	1873.	1874.	1875.	
Cold - - -	3,521	4,050	11,995	13,867	4,580	38,013
Hot - - -	26,850	18,673	65,887	66,879	15,845	194,134
Rains - - -	8,078	7,350	19,211	12,501	5,394	52,534
Total - - -	38,449	30,073	97,093	93,247	25,819	284,681

This table shows that, like other epidemic diseases, small-pox has its own relation to season, a fact which is more clearly brought out by the following percentages of deaths in each season:—

		Percentage of Small-pox deaths.
Cold season	January -	13.35
	February -	
	November -	
	December -	
Rains	July -	18.45
	August -	
	September -	
	October -	
Hot season	March -	68.20
	April -	
	May -	
	June -	
		100.00

On comparing these percentages with those already given for fever and cholera, it appears that the rains and cold seasons are the fever seasons, that the hot and rainy seasons are the cholera seasons, and that the hot season is the special season of small-pox prevalence. As regards the epidemiology of the North-West Provinces, these facts are of great importance for practical purposes.

11. Small-pox mortality was very unequally distributed throughout the provinces. In 1875 the total small-pox mortality for the provinces was '83 per 1,000 of the population.

The lowest rate was '01 per 1,000 in Kumaon, and the highest 16'12 per 1,000 in Lalitpur district. In three districts, Kumaon, Gurhwal, and Dehra Doon, the absence of this disease is attributed to the "labours of the vaccination department, by which all the infant population of "that large tract of country is brought under the protecting influence of vaccination;" a fact which apparently shows that under improved vaccination arrangements similar results might be attained in other districts.

12. *Bowel Complaints*.—From diseases (chiefly diarrhœa and dysentery, Mr. Planck says) classed under this designation there were, in—

	Deaths.
1874 - - - - -	60,865
1875 - - - - -	80,337

It appears to be necessary to recall a comparison frequently made between the mortality from bowel complaints and the deaths from cholera.

As already stated, the cholera deaths for the same years stood as follow :—

	Cholera deaths.
1874 - - - - -	6,396
1875 - - - - -	41,106

Last year was one of a great cholera epidemic, and yet the bowel complaint deaths were nearly double the cholera deaths. Taking the two years together, the cholera deaths were to the bowel complaint deaths as 1 to 3, and it is worthy of remark that the largest mortality from "bowel complaints" took place in the cholera epidemic year.

13. For practical purposes it is very important to ascertain the relation of these "bowel complaints" to cholera. If there is no "choleraic" relation between them, then cholera must take a subordinate place among Indian death causes.

A remark made by Mr. Planck that he is "inclined to think that deaths from enteric fever are "sometimes entered under this head" is worthy of being followed up. We require to know much more of Indian "fevers" and "bowel complaints" than is the case at present, in order to be able to deal with them, and why it is that the mortality from bowel complaints "appears to fall principally upon the people of Bundelcund and the Himalayas, and upon the people of certain "districts of the Doab ad Rohilkund," while the eastern districts comparatively escape.

14. So far as can be estimated from two years' returns, there appears to be a distinct relation between bowel complaints and seasons. This is shown by the percentage of deaths during the same months as those adopted with the other death causes :—

Seasons.	Percentage of Bowel Complaint Deaths.
Hot - - - - -	19'0
Cold - - - - -	32'3
Rains - - - - -	48'7
	100'0

The seasonal relation of mortality from "bowel complaints" follows in the same order as that of "fevers," *i.e.* greatest in the rains and cold season, and lowest in the hot season. It differs in this respect from the mortality of cholera and small-pox, which is greatest in the hot season, less so in the rains, and least in the cold season. Rain and cold and their concomitants must, therefore, take their places in the bowel complaint etiology of the North-West Provinces, as in the Berars, where the climatic relations are so much the same that the Sanitary Commissioner considers that in searching for the cause of the one disease we may also find the cause of the other. If on further inquiry this remark is found applicable in other districts of India, we should have statistical proof of the causative relation of want of drainage, and its results on the present state of agriculture, inferior dwellings, and insufficient clothing and sustenance, to the prevalence of fever and bowel diseases which are the chief death causes in India.

15. *Sanitary Commissioner's Inspection Reports*.—These reports afford much information tersely given as to the sanitary state of a large number of towns and districts, showing the character of local disease causes, and the nature of the chief sanitary improvements which have been carried out in them. Among the localities inspected in 1874 were 21 municipal towns and 2 large villages, and 33 were inspected in 1875.

In most of these places sanitary improvement is making progress. In some of them considerable works have been carried out.

Cleansing and surface draining are more or less attended to, and increasing interest appears to be taken by the authorities in the subject. Paving is being introduced in some places with advantage. Town sewage is disposed of in various ways, more or less advantageously; but there is one practice followed at Bijnor, which is curiously in accordance with the Mosaic precept in this matter, and in conformity with sound sanitary principle. Six sarpat plantations have been provided for retirement, and as affording the necessary privacy, and a sweeper is attached to them, furnished with a hoe for covering all impurities at once with earth. A long time ago the Commission called attention to this subject, and as the practice has been successfully introduced at Bijnor, there is no reason why it should not be generally followed. It would put an end to air pollution by excretal dust, and with due care in changing ground after a sufficient quantity of manure had been deposited in it to admit of cultivation, it would prevent the fouling both of earth and water. It would be quite worth while to call the attention of other municipalities to this practice already followed in one of them.

16. The chief disease cause at all the places inspected by the Commissioner in both years is subsoil wetness, showing itself in expanses of stagnant water, wet and marshy ground, damp surface, damp rising in walls of houses, and in districts under irrigation,—all these evils aggravated by throwing additional water into the subsoil, and thus raising the subsoil water level, and endangering the purity of wells. In some instances the water level has been so much raised as to occasion flow of water in otherwise dry nullahs.

The Reports contain many important observations of this matter, and must be referred to for the details. The practical result of the whole is that those parts of the country which are suffering most should be drained without loss of time.

17. Some skilled assistance is evidently required for local sanitary works. Some time ago attention was called to the drainage of Cawnpore, and its want of adaptation to the requirements of the city. There is little said about it in the present Reports, but what there is mentioned is illustrative of the necessity referred to. Mr. Planck says:—"The new great drain of this city was seen to be embanked with earth near its termination, said to be done expressly to cause stagnation of the sewerage, and bring about deposit of earth and impurities it contains . . . when dug out it is bad smelling and makes good manure, but its collection in this way is not likely to improve the sanitary state of the city."

Mr. Planck's account of the conservancy arrangements is not favourable, and it shows that for all domestic purposes Cawnpore is still undrained, notwithstanding the great outlay which has been incurred. This matter will have to be taken in hand some time, because the present practices cannot be continued without future injury to health. The case is one which may very well serve as a warning to other municipalities.

18. *Sanitary Improvement.*—By far the most important part of these Reports is that which relates to sanitary improvements in progress, or which have been already completed, and first in order must stand land drainage, intended not only to remove the excess of water poured into certain districts of the North-West Provinces by excessive canal irrigation, but also to lower the natural water level of parts of the district. It is only justice to state that the Government of the provinces has acted in these measures with an enlightened regard to the interests of the district and the health of the people, and that they may expect to reap the advantages of their labours in diminished sickness as well as in increased productiveness of the soil.

After numerous inspections and conferences with irrigation officers, which revealed the fact that large tracts of land were in a marshy condition, that the soil was deteriorating and crops suffering, and that the labourers themselves were enduring all the miseries and losses incident to this state of the country, a large number of drainage works were sanctioned in the following districts—Saharanpur, Muzaffarnuggur, Meerut, Bulandshuhr, Aligurh.

One single work will drain 150 square miles of country.

Alluding to the extent of these works, the Sanitary Commissioner says:—"The summary shows how numerous these cuts are. They undoubtedly represent a great network of artificial drainage channels, which will direct the surplus moisture of many portions of the country to the natural drainage lines I believe this drainage work is of very great importance, and in its entirety constitutes a work of the first magnitude, in regard to the endeavour to improve the sanitary aspect of a wide surface of country densely peopled." It is the first attempt on a large scale to deal with causes of malaria, but it will at the same time improve the agricultural products of the district both in quality and amount.

19. Sufficient time has not elapsed to show results, nevertheless there is a table in Dr. Moir's report of the 25th March 1876 which may be put on record as exhibiting a singular coincidence with, if not an effect of, one of the most important of these drainage works, viz., at Meerut. These works were sanctioned on 4th February 1875, because, "seeing the extreme urgency of this case, His Honour the Lieutenant Governor has decided that the drainage of Meerut shall be proceeded with at once, and separate orders have been already issued on the subject" (those referred to above).

Bearing the date in mind, the following are the facts about the fever of 1875, as compared with those of 1874:—

Months.	Monthly Admissions from Malarial Fevers.					
	British Troops.		Native Troops.		Civil Hospital.	
	1874.	1875.	1874.	1875.	1874.	1875.
	Strength	Strength	Strength	Strength	Total Admissions.	Total Admissions.
	1,491.	1,398.	764.	887.	17,021.	14,048.
January	38	85	37	40	65	137
February	45	88	21	14	56	69
March	40	73	15	19	79	147
April	62	145	22	31	124	212
May	108	122	40	43	198	257
June	108	111	52	14	194	262
July	189	136	104	2	410	226
August	413	108	298	20	1,100	265
September	458	97	306	48	1,063	286
October	356	99	239	50	906	333
November	205	72	84	27	414	226
December	160	16	60	12	226	130
Admissions per 1,000	1,463·4	823·9	1,672·7	360·6	284	181·5

The reduction of fever shown by this abstract is great and incontestable. Mr. Planck, while declining to accept figures for so short a term, admits the evidence. And Dr. Moir appears to consider that the decline in admissions was due to the natural law of the disease. A similar reduction of fever took place in the prisons, as follows:—

Fever Admissions per 1,000 Strength.

	1874.	1875.
Central prison - - - - -	1,054·95	386·69
District jail - - - - -	1,336·7	633·78

If these figures represent a law of malarial fever in the North-West Provinces, it is well to know it; but if the drainage works executed after 4th February 1875 have had any influence on these striking results of the two years, they must be classed as among the most successful applications of sanitary principles on record. We simply abstract the facts, and leave the reasons to be assigned by future experience. If, as Mr. Planck remarks, Dr. Moir's view be the correct one, "our best safeguards against a return of the epidemic prevalence in future years are the completion of the drainage scheme now progressing;" of the truth of this view there can be no doubt.

20. The 1875 Report contains other instances of improved health following on the execution of drainage works. Referring to the Khurja Drainage Scheme, Dr. Wilcocks, the health officer of Bulandshuhr district, states "that this drainage scheme completely drained a country which formerly was remarkable for swamp and stagnant moisture in and after the rainy season;" and to this he attributes the improvement of the death-rate, which was no less than 107 per 1,000 in 1874, but fell to 29·6 per 1,000 in 1875, "due in greatest measure to the removal of excessive moisture from the town precincts, and from the country surrounding the town."

The city of Saharunpur and its precincts have been drained with the result stated "that Saharunpur, formerly noted for its high ratio of mortality, has during the past two years taken rank amongst the towns of lowest ratio of mortality in the Doab."

A great sanitary improvement in surface drainage has been effected at Meerut by simply filling up a series of noxious ponds, and converting another one into a useful water tank. The reclaimed land will more than pay all the outlay.

The site of Muzaffarnuggur has been drained, and its death-rate (27·6 per 1,000 for 1875) is the lowest of any town in the Upper Doab.

Extensive drainage works have been carried out in the Terai, reclamation has been thorough, the land drained and surfaces levelled. Besides other benefits, this will considerably improve the local climate.

These illustrations will show the kind of drainage works in progress, and their prospective results to health.

21. But, besides these drainage works, extensive improvements are being carried out by many municipalities. The Report for 1874 contains a very brief abstract of measures adopted in 55 municipal towns during the preceding five years, or since municipal management was established. The details are far too numerous to be given separately. All that can be done is to state the general character of the work.

Road making and surface drainage connected with it appear to have occupied much attention, and, as part of this improvement, levelling of surfaces, filling up holes, and other simple surface drainage improvements have been attended to. Public latrines have been erected in many towns, and the conservancy has been much improved. Tanks and wells have been constructed and repaired, new markets built, and slaughter-places provided and regulated.

Trees have also been planted in several towns. But, except the great land drainage works, no extensive works have been undertaken for the improvement of towns.

The general result, as stated by the Commissioner, is "that the municipal towns are, as a rule, admirably kept in regard to surface cleanliness, . . . which has brought about a marked improvement in the freshness and purity of the air which circulates in the towns." He admits exceptions to this in out-of-the-way localities, and also in the villages, in many of which and the smaller towns no material progress towards sanitary improvements has been effected. The absolute filthiness of village sites is not seen so frequently now as it was formerly, "but nothing of importance has been done to improve the sites by levelling broken surfaces, or by planting trees in and around the site." What is really wanted to meet these requirements is to enlist the people in the work, and to give them some general instructions showing what is required for the improvement of villages in surface draining and levelling, protecting wells and tanks, cleanliness, and removing cattle and all filth beyond the village precincts, and impressing on them the need of carrying them out for protecting the villages from the attacks of epidemic diseases.

22. Mr. Planck's Report for 1875 shows continued advances in public health improvements, especially in those connected with the drainage of the country.

A list of 36 separate drainage works in nine districts of the North-West Provinces is given, in which it is shown that during the year 30,890,433 cubic feet of excavations were completed for drainage works in connection with the Ganges Canal, and 8,243,869 cubic feet in connection with the Eastern Jumna Canal. In Meerut and Bulandshuhr districts upwards of 16 millions of cubic feet of excavation had been completed, and it seems not unlikely that drainage works of such magnitude may have contributed to the remarkable improvement in health in this district which has been already referred to.

In the course of his inspections of many towns and districts during 1875, Mr. Planck reports continued and, in some instances, striking proofs of interest taken in sanitary proceedings, while, at the same time, he points to numerous neglects of obvious precautions.

23. Part of his duty was to superintend the sanitary arrangements for the crowds of people who were present at Agra during the visit of His Royal Highness the Prince of Wales, so effectually carried out by the Magistrate of Agra, Mr. James Simpson. As every successful work of this kind is important for future example, it may here be stated that every arrangement was made long before a tent was pitched. Camps fell into their proper places in perfect order, and surplus animals were removed to the open country. There was no overcrowding anywhere, surface sweepings were at once buried in shallow pits, the trench system of latrines, with immediate burial of the sewage under a covering of dry earth, was resorted to, and officers were told off to see that no nuisance was anywhere permitted.

Wells for drinking water were marked by flags, and care was taken that no other water was drawn for this purpose. Two temporary hospitals were provided, and provision made for reporting all cases of sickness. The result was that not a single case of any epidemic disease occurred in any camp, that the daily sick lists contained reports of trivial sickness or accident only, and were blank for many days.

There were 3 deaths from fever with pneumonia among camp followers, from exposure and cold on the march, the day after their camp arrived, and one man was injured by an elephant. Mr. Planck says that, "when the camps were removed, the ground appeared, but for here and there a broken surface or a little stable litter, as clean and carefully kept as before the site was inhabited."

So continuous has been the success of similar measures since Mr. Ellis, of the Madras Sanitary Commission, first introduced them at the Conjeveram pilgrimage of 1864, that any outbreak of epidemic disease among large assemblages of people in India would appear to argue the existence of neglect somewhere. It is of more importance, however, to remark that measures of this class really embody nearly all the principles required for the improvement of country populations in India.

24. As regards town improvements during 1875, Mr. Planck says that "they consist almost invariably of the results of well-directed efforts to improve the local drainage, to raise and consolidate the public thoroughfares, and to fill up unwholesome excavations. In some towns a considerable amount of improvement has been effected, or is being effected, in the direction of better ventilation by means of straightening existing roadways, or opening out new ways in more crowded portions of the site." He states that, wherever the means of improvement are readily forthcoming from local resources, improvement has made and is making good way in the towns from one end of the country to the other; that both English and superior Native officials are far advanced in knowledge of sanitary matters, and convinced of the advantage of sanitary improvements; and in the present state of the larger towns he considers that it will be more advantageous to turn his attention to the smaller groups of population.

25. The mortality statistics show that great improvements are still required throughout the provinces, as well as further investigation into the nature of local diseases, their causes and remedies, but it is impossible to peruse these Reports without recognizing the earnest, active, and intelligent practical work done by the Government of these provinces and by their Sanitary Commissioner, and at the same time not to express a desire that similar work may ere long be reported from every district of India.

In conclusion, the Commission is desirous of directing special attention to the following practical results of these two interesting Reports as likely to be useful in other parts of India:—

1. Tracing the Doab fevers to want of drainage in connection with irrigation works; taking active steps for draining the worst districts; and the apparent prompt effect of local drainage in reducing the amount of fever.
2. The efficiency of vaccination as a protection against epidemic small-pox when thoroughly carried out.
3. The practicability of introducing perfectly safe arrangements for disposing of sewage when deposited on the ground by covering it at once, as illustrated in the experience at Bijnor, which would apparently be applicable in most parts of India, if not everywhere.
4. The admirable temporary sanitary system, at once simple and efficacious, introduced by Messrs. Simpson and Planck for the protection of the camps assembled at Agra during the visit of His Royal Highness the Prince of Wales, as affording another illustration of the success of a class of measures applicable to all similar public assemblages in India.
5. The practicability generally, under careful supervision of the Sanitary Commissioner, of ensuring the progress of sanitary improvement.
6. The great importance of enlisting the village authorities and people in improving the sanitary state of villages.
7. Continuing the same course of local investigations already followed in past years by Mr. Planck into the history of epidemic diseases in selected localities, with the view to ascertaining their removable local causes.
8. Recognition of the principle that questions of drainage and of irrigation ought to be considered together as forming parts of the same work.

21st May 1877.

No. 7.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the
SANITARY COMMISSIONER for OUDE for 1875.

This Report, prepared by the Officiating Sanitary Commissioner, contains less information than usual of a sanitary kind. It is mainly devoted to statistics of more than doubtful reliability, and to a general account of the cholera epidemic of 1875. The Officiating Sanitary Commissioner states that "the reports of Health Officers of districts with the remarks of local authorities are "attached in original," and as these reports are not printed either entire or in abstract, and as there are no accounts of sanitary inspections by the Commissioner himself, there is very little calling for remarks by the Army Sanitary Commission, except to point out these deficiencies, and to repeat what has been frequently said before, that whoever is appointed to do sanitary work should as far as possible confine himself to it, and leave statistical work to others, except in so far as statistics may help him to do his special duties.

The chief interest in the present Report lies in the account given of the cholera of 1875, of which a brief abstract may be useful, in order to show the relation of the Oude cholera to the epidemic which prevailed in all the adjacent districts during the year, premising a few remarks on the general mortality of the province.

1. The mortality of Oude is taken on the census population of 1869, which consisted of—

Males	5,796,697
Females	5,376,841
Total	11,173,538

The registered deaths in 1875 amounted to 181,599, or at the rate of 16·25 per mille.

This apparently favourable result is arrived at as follows: "It has been found on actual inquiry that young children, girls especially, count for nothing, so too aged women; what they consider it necessary to report is the deaths of able-bodied men and males in general, and next adult women with a limit of discretion." The actual numbers of each sex registered in 1875 show that a considerable latitude is taken in this matter of "discretion." The registered deaths were of—

Males	100,957
Females	80,642
Total	181,599

This cause of fallacy being known, there ought to be little difficulty in arriving at a remedy.

Something nearer the actual mortality among the country population was arrived at by the Civil Surgeon of Sultanpore, who by the aid of his assistant managed to obtain the actual number of deaths in 21 villages between the 30th January 1875 and the 31st January 1876, as follows:—

Population	7,561
Deaths	192
Deaths per 1,000, including 4 per 1,000 from cholera	25·4

The district death-rates have not yet been determined, and the returns show the usual discrepancies. The rates lowest and highest were:—

Fyzabad	10·07 per 1,000
Baraich	22·94 „

Among town death-rates, Pertabgurh showed 38 and Sitapur 47 per 1,000 in 1875.

These recorded data show that registration in Oude is still in its infancy.

2. *Causes of Death.*—The following death-rates, giving the chief mortality causes, are of little use, except perhaps to show in some degree the relative mortality from each class:—

Cause of Death.	Ratio per 1,000 of Population.	Ratio per Cent. of Total Deaths.
Fever	11·69	71·9
Cholera	2·09	12·8
Bowel complaints	0·58	3·6
Small-pox	0·50	3·1
Injuries	0·50	3·0
All other causes	0·89	5·4

This abstract shows the excessive prevalence of fever in Oude.

Deaths from snake-bite are not separately given, but they must be very numerous, as the deaths from animals amounted to 1,588.

3. *Cholera.*—The following are the chief points in the history of cholera:

There were 68 recorded deaths from cholera in 1874, and 23,321 in 1875. The next table shows the monthly prevalence of cholera in Oude from 1869 to 1875:—

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.
1869 - -	327	177	689	2,614	3,394	4,149	3,548	4,239	1,725	1,521	491	260
1870 - -	113	184	540	2,360	3,610	1,203	607	1,158	1,276	1,722	1,826	719
1871 - -	216	95	101	128	102	99	239	845	760	3,610	6,476	3,861
1872 - -	251	51	1,661	6,052	6,717	4,320	1,981	1,997	1,413	1,524	482	117
1873 - -	127	2	40	303	97	603	726	945	433	227	316	142
1874 - -	1	9	6	4	7	1	11	10	—	1	7	11
1875 - -	—	56	824	8,726	4,206	2,137	1,050	979	1,636	1,856	862	989
Total	1,035	574	3,861	20,196	18,133	12,512	8,162	9,673	7,243	10,461	10,460	6,090

Cholera mortality in Oude has afforded the following annual variations during the last 7 years:—

	Deaths.
1869	23,134
1870	15,318
1871	16,032
1872	26,566
1873	3,961
1874	68
1875	23,321

The deaths registered in 1874 are apparently below the truth.

4. The time relation of the Oude epidemic of 1875 to cholera in the North-West Provinces was as follows.

The district of Basti, in the North-West Provinces, which adjoins the district of Fyzabad, in Oude, registered 274 deaths from cholera in March. The first registered cholera death in Fyzabad was on the 16th February. Azimgurh, in the North-West Provinces, adjoins Fyzabad district at its south-eastern end. There were 11 deaths from cholera in Azimgurh in February, the same month in which Fyzabad was attacked.

The next frontier district of the North-West Provinces, viz., Jounpur, had 40 cholera deaths in February; the adjacent district in Oude, Pertabgurh, was attacked on the 19th February. Crossing the Ganges, Allahabad had two deaths.

The adjoining North-West district of Futtehpur had one death in February. The adjacent Oude district, Roy Bareilly, was attacked on the 17th February.

Cawnpore, in the North-West Provinces, had five deaths in January; Unao, in Oude, about 12 miles distant, was attacked on 13th March.

There was thus no apparent relation between the epidemic in the North-West Provinces and the disease in Oude, except that they were both parts of the same outbreak. Within the province of Oude itself cholera was distributed according to the same law. The Acting Sanitary Commissioner states that "throughout the epidemic there was no regular progress in any definite direction, either from east to west, or otherwise, along main lines of communication. There was a series of isolated outbreaks, commencing in given spots, and spreading thence in every or in any direction On examining the several districts, the same irregularity of incidence and course is met with, the disease appearing and spreading from several centres apparently at or about the same time." The prevailing local tendency was to look on the Oude epidemic as having been imported by pilgrims, but the Acting Sanitary Commissioner says that he has no evidence that such was the case, or "why it should have been necessarily imported, as the experience of previous years seems to point to the fact that cholera has taken up its permanent residence in Oude."

5. Some investigation appears to have been carried out regarding the importation of cholera and its communicability, which the Acting Sanitary Commissioner appears to have thought unnecessary, as there is already sufficient evidence in the affirmative.

This is a very important statement, but it may be suggested whether it ought not to be supplemented by a distinct reference to unimpeachable evidence.

This Commission called for such evidence a number of years ago, with the view of ascertaining the real facts, and turning them to practical account, but hitherto without success.

The present Report contains a number of cases of presumed communication, but the following judgment passed on them by the Acting Sanitary Commissioner can scarcely be considered as showing that the inquiries have been of a satisfactory nature. He says: "The upshot was that, whilst in certain instances the reporters were satisfied that the disease was imported and propagated by human means, in others no such history could be obtained."

The cases themselves cannot be said to show that amount of skill and care in their investigation which is necessary to settle the questions at issue. Many important details in them are not given, and the result is that they can be considered only in the light of individual opinions on such evidence as came directly or indirectly to the knowledge of the reporters.

All that can be done is to refer back to our instructions prepared for the Indian Cholera Inquiry (1869), in which the following principle was laid down: "The inquiry is not to be undertaken with the view of establishing any particular doctrine or hypothesis in regard to cholera, nor is it to be carried out from any central doctrine or hypothesis round which the facts are expected to range themselves. If any beneficial result is to follow from it, the inquiry must be pursued without prepossession, and with the single object of ascertaining what is true."

The points to be inquired into in this spirit are fully detailed in the instructions.

6. The Acting Sanitary Commissioner states that the natives themselves had applied active quarantine restrictions. A comparison of the death-rates of the last two years will show with what results.

From the same principle the natives adopted another proceeding, which the Commissioner very properly says "cannot be upheld as a sanitary measure." They have adopted hasty burial of persons dying of cholera "in shallow graves, close at hand, to disinter them for either incineration or disposal in the sacred rivers when the epidemic has ceased."

This insanitary proceeding is both mischievous and dangerous to the public health.

The Commissioner's own opinion includes the really practical result, hitherto attained, of all these disputed contagion questions. He says, in regard to quarantine, "that it is useless to attempt carrying it out, as it is simply impossible to do it so thoroughly and effectively as to be of any use." The only other course is to follow the example of the Government of the North-West Provinces, and to take the sanitary condition of Oude in hand vigorously.

7. In the present Report important and useful facts bearing on the law of cholera distribution are given, from which the proportion of attacked villages in each district can be arrived at for the first time in Oude. The following table contains the results :—

Districts.	Total Deaths.	Total Villages.	Villages attacked.	Per Cent. of Villages.	
				Attacked.	Escaped.
Fyzabad - - -	2,034	2,119	448	21·	79·
Sultanpur - - -	2,807	2,526	467	18·4	81·6
Pertabgurh - - -	829	2,244	239	10·6	89·4
Roy Bareilly - - -	1,573	1,773	255	14·4	85·6
Gonda - - -	3,804	2,834	664	23·4	76·6
Baraich - - -	3,376	1,943	581	30·	70·
Bari Banki - - -	1,147	2,094	262	12·5	87·5
Lucknow - - -	808	960	166	17·3	82·7
Unao - - -	1,605	1,739	460	26·4	73·6
Kheri - - -	458	1,777	69	3·3	96·7
Sitapur - - -	1,464	2,389	232	1·	99·
Hardoi - - -	2,937	1,976	365	18·5	81·5
Total - - -	22,842	24,374	4,208	17·2	82·8

The facts are remarkable. There are 24,374 groups of population accounted for, and the total cholera deaths during a severe epidemic were less than one to each group. Of these 24,374 village groups, 4,208, or 17·2 per cent., furnished deaths, and 20,166, or 82·8 per cent., escaped. The deaths, if divided equally among the attacked villages, would average under 6 each.

The facts show how important it would have been to have had more information on the causes of this singular distribution of the disease, and also as to any special sanitary defects in the most severely attacked groups. All that we have on this latter point is the general statement of the Acting Sanitary Commissioner that "as regards the sanitary condition of the villages the reports are always the same, that they are filthy in the extreme, and with all sanitary rules set at defiance." The water is said to be "fair in quality," which the Commissioner very properly doubts, for the two statements are practically in contradiction.

The facts regarding villages are given for each parganah, of which there are 169, and they are a very important instalment of the topographical history of Indian cholera.

They give the dates of first and last deaths, and also the periods of maxima for each parganah, and suggest that a great step in advance would be to map carefully the attacked and escaped villages. Even a few districts so dealt with would afford some really important information, not otherwise obtainable, regarding the local movements of cholera.

8. *Fevers*.—The deaths attributed to fevers were 130,609 = a death-rate of 11·69 per 1,000 of the population. The Government has instituted local inquiries into the history and concomitants of these fevers, which are still in progress.

The present Report contains little information on the subject that has not been already discussed by the Commission. But two facts in regard to one district are stated which confirm the conclusions previously arrived at as to the nature and local causes of these fevers. In the fever tract along the Katwa river the inquiry in 20 villages resulted as follows,—that the greatest prevalence and mortality of the fever took place in August, September, and October; that in villages situated on low-lying lands the prevalence and virulence of the disease was comparatively greater. The cultivation of particular crops did not appear to exert any influence.

The reports are not given in detail, but, on reviewing their contents, the Sanitary Commissioner says: "The only conclusion to be drawn at present is that fatal malarious fever is not so universally prevalent all over the province of Oude as chaukidars would have us believe, and that it is most so in sub-Himalayan tracts of country, and in low-lying khadir lands, and where jhils abound and the land is water-logged. But there is nothing new in this." And then follows the account of villages already quoted.

There is enough information in the present and preceding Reports to show the need of an exhaustive inquiry into these Oude fevers, especially with regard to their comparative prevalence in specific localities, their local characteristics, and the conditions under which they are the most fatal.

9. *Small-pox*.—Little has yet been done in Oude to cope with this pestilence. The Acting Sanitary Commissioner informs us that in six years ending 1874 there were 100,242 small-pox

deaths, which he contrasts with 85,079 cholera deaths during the same period. There were 5,612 small-pox deaths in 1875.

The total vaccinations amounted to 27,656, of which 22,450, or 85 per cent. (excluding those the results of which were not known), were reported as successful.

The population of Oude in the districts of the vaccination return is 11,173,538. A comparison of the two totals will show how small is the progress yet made in this department.

10. *Bowel complaints* caused 6,515 deaths, registered as such, a number probably under the truth, seeing that 1875 was a cholera epidemic year.

11. *Sanitary progress*.—The only reference to this most important detail in all sanitary reports is the amount for so-called sanitary works and services spent by the 17 municipalities in the list. No account is given of the items included under these heads, except in the case of Lucknow, where 2,555*l.* were spent “on new drains.” The total expenditure of the 17 municipalities was 9,028*l.*, of which 315*l.* was recovered by the sale of refuse.

12. Although the present Report contains some useful contributions to the history of cholera distribution in Oude, it cannot be said to show any advance throughout the province in real sanitary improvement.

So far as can be learned from the reports, there has been less done in this direction in Oude than in any other district in India. The Army Sanitary Commission would beg to suggest whether some systematic method of dealing with the more obvious sanitary defects might not be adopted.

Take for example the facts about fever already ascertained, which show that its prevalence is due to undrained, and in some cases to inundated, land. The North-West Provinces are now affording practical examples of the manner of dealing with disease causes of this class. Sufficient is known of the sanitary state of the villages to justify a recommendation that means might be adopted to enlist the village officers and the people themselves in protecting their own health. The publication of a few simple rules and a little advice on the subject of cleanliness, improved surface drainage, filling up holes and levelling, removing filth beyond the precincts of villages, keeping cattle away from dwellings, and protecting the water-supply, would, at all events, be a beginning, and would enable many potent disease causes to be removed forthwith.

There is nothing new in this recommendation. We have often made it, and it is being acted on in many districts of India.

Statistics are not to be undervalued in their proper place, but it must be repeated that sanitary work is not statistical work. It is a practical hand to hand fight with disease and its local and personal causes, and, so far as can be learned from these reports, little has been as yet done for Oude in this contest.

18th May 1877.

No. 8.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER for the CENTRAL PROVINCES for 1875.

Out of upwards of 100 pages of which this Report consists, very few are devoted to sanitary work properly so called. The Report is chiefly made up of statistical details, not without a certain relation to the health of the provinces, but which could mostly have been supplied by another agency, so that the Sanitary Commissioner might have been enabled to devote his whole time to his proper work. It is evident that the relation of the Sanitary Commissioner to the progress of public health improvements requires to be considered in the Central Provinces as in other Governments in India. There are, nevertheless, a few matters of practical importance contained in the Report to which attention may be directed.

1. According to the census of 1872, the population of the Central Provinces was constituted as follows:—

Males	-	-	-	-	3,769,821
Females	-	-	-	-	3,638,253
Total	-	-	-	-	<u>7,408,074</u>

The births were of—

Males	-	-	-	-	139,412
Females	-	-	-	-	122,494
Total	-	-	-	-	<u>261,906</u>

The deaths registered were of—

Males	-	-	-	-	105,446
Females	-	-	-	-	89,577
Total	-	-	-	-	<u>195,023</u>

Hence the registered births exceeded the registered deaths by 66,883.

The ratios per 1,000 of the population were—

Births	-	-	-	-	35.35
Deaths	-	-	-	-	26.32

Increase of the year - 9.03

The Commissioner says that the registration has on the whole improved, but there is still room for improvement in many districts. This view is borne out by the facts.

2. The registered deaths of 1875 exceeded those of the preceding year by 20,577, showing the influence of epidemics in 1875, fully confirmed by the following details of the chief death causes in that year :—

	Number of Deaths.
Cholera - - - - -	14,643
Small-pox - - - - -	20,226
Fever - - - - -	120,480
Bowel complaints - - - - -	15,562
Other causes, including 951 deaths from wild beasts and snake-bites -	24,112
Total deaths - - - - -	195,023

The first four endemic and epidemic death causes gave rise to nearly 88 per cent. of the total mortality. These, in fact, constitute the sanitary problem in the Central Provinces, and it is towards their mitigation that the sanitary work of the Commissioner and local authorities has to be mainly directed.

The Report contains very little information regarding removable local conditions attending on these diseases. But a special report on the cholera epidemic is promised. All that can be done at present is to deal with such facts as are before us.

3. *Cholera*.—The first cases of cholera in the Central Provinces took place in some rural circles of Bilaspur district, at a long distance from any other affected districts. There were 7 deaths in February. It already existed as a severe epidemic in Bengal proper. It was beginning to take on epidemic intensity in other parts of Bengal, in Oude, and the North-West Provinces. Only a few cases had appeared in the Punjab. There had been only 2 deaths in Bombay Presidency (in the city). There had been 24 fatal cases in Madras Presidency, and none as yet in the Berars, or in Rajpootana, Hyderabad, or Central India. The disease was epidemic in Ceylon, and there had been one death in Burma. Having attacked Bilaspur, the disease had a distinct period of rise and decline, ending in October, having occasioned 2,525 deaths in this district. The next district attacked was Raipur, in the rural circles of which there were 16 deaths in March, but none in April. The disease, however, existed till the end of the year, and occasioned a mortality of 4,449. The two district towns are about 80 miles apart, the districts adjoining each other, and the cholera in both was apparently a distinct epidemic outbreak. A similar outbreak took place in Hoshungabad and Nimar Districts, 150 to 200 miles away. It began in April and lasted to the end of the year. In other parts of the province there were severe outbreaks lasting a shorter time, and some parts of the province escaped comparatively, including Sambalpur and the country nearest to Balasore, Cuttack, and Pooree (within the endemic area), where cholera existed during the entire year, and gave rise to nearly 8,000 deaths. Sambalpur district was not attacked until July, and had altogether 254 deaths.

This experience is important on account of an opinion which has prevailed that cholera invades the Central Provinces from the endemic area, and is carried into these provinces by pilgrims. So far as can be gathered from the statistics, the late epidemic appears to have been made up of sudden and severe local outbreaks in special districts of these provinces.

4. The conditions which determined the greater prevalence of cholera in some districts than in others will be included in the Sanitary Commissioner's promised report, but in the meantime some useful points of experience in this matter may be gathered from the 4th section of the present Report, on "*Sanitary Progress*." The following abstract contains the results for the year.

No works of any magnitude have been carried out, but improvements generally in cleanliness, conservancy, and drainage in the towns have been progressing. Water-supply has been attended to so far as means have been available. Wells have been cleaned out, deepened, and kept in repair, and precautions generally taken to prevent pollution. But in many large towns much more than this is required.

Improvements in drainage and water-supply have been carried out at Saugor, Deori, Garha Khota, and Damoli. These towns appear to have escaped cholera.

Narsingpur had no conservancy arrangements. It had 2 deaths from cholera.

Hoshungabad is undergoing improvement. It had 14 deaths from cholera out of a population of 11,613. Other towns in the district, Sohagpur, Seoni, and Harda have also been improved. They had altogether 39 deaths from cholera out of an aggregate population of 24,701.

Khandwa, with 14,199 inhabitants, had 5 cholera deaths among them. The town was cleansed, and the water-supply protected as far as practicable.

Burhanpur is drained into cesspits, and the people do not desire to change the system. Fortunately the water-supply is from a distance. There were in this town 75 deaths from cholera from among 29,303 inhabitants.

Betul.—A dirty town, with 4,600 inhabitants, had 34 cholera deaths.

Chindwara.—An unimproved town, of 8,626 inhabitants, had 14 cholera deaths.

Lodikhhera.—Town in the same district, in which "measures of conservancy are urgently called for," had 114 deaths from cholera among 5,219 people. The conservancy and water-supply are both equally bad.

Seoni, with a population of 9,557, was being supplied with good water, and was fairly clean. It had no cholera.

Bhandara.—Conservancy has been greatly improved, and suspicious wells were closed. There were 2 deaths from cholera in the town during the rains, and 12 afterwards among low caste

people in the outskirts using tank water. In 1866 there were 150 cholera deaths, and in 1869 there were 185 cholera deaths. The epidemic on each occasion appeared in the same months. The population is 11,433.

Nagpur.—The experience of this city of 84,441 inhabitants is sufficiently striking to be given entire.

"The conservancy system, which was introduced in 1873, has continued to work well. Considerable improvements have been effected in the drainage of certain parts of the town, and in the Seetabuldee bazaar, but a comprehensive scheme of drainage for the town, which is much required, cannot yet be undertaken for want of funds, the cost of the new waterworks being still a heavy burden on the finances of the municipality. The people fully appreciate the boon that has been conferred on them in an abundant supply of good water, and there is every reason to believe that the health of the population has been greatly improved thereby.

"In 1866 cholera visited the town in the rainy season, and in the months July to September 635 cases were reported, of which 383 were fatal.

"In 1869 it came again at the same season of the year, and 640 cases were reported, of which 343 were fatal. In that year there were 1,292 deaths from cholera in the district.

"The water from the Ambajhari reservoir was let into the town on the 23rd July 1872. A few cases of cholera had occurred in the town in June, and it was commencing to spread in July before the water was let into the mains. The epidemic did not cease till the end of August, but it was remarkable for the small fatality of the cases.

"Between the 16th and 23rd July inclusive 27 cases occurred, of which 9 proved fatal. Between the 24th July and the 31st August 115 cases were reported, of which only 11 proved fatal. Epidemic cholera did not prevail in the district in 1872.

"In 1875 cholera broke out in the district in the latter end of July; it spread very rapidly, and in the course of the next two months was the cause of 2,111 deaths."

Now let us see what occurred in Nagpore itself.

"One or two cases occurred in the town in the last week of July and first week of August in persons belonging to the villages in the neighbourhood where cholera was prevalent, but no resident in the town or station was attacked till the 14th August. Between this date and the middle of September 59 cases were reported, of which 30 proved fatal, but the majority of these occurred in parts of the town not supplied by the Ambajhari water. Many too occurred among a community of Dhers living on the outskirts of Seetabuldee bazaar, on the banks of the Nag stream, who, it was found on inquiry, were not allowed by the other castes to draw water from the hydrants.

"The water service is now being extended to parts of the town which were not at first supplied with it."

One escape from a cholera epidemic is not sufficient to prove immunity, but there is certainly sufficient in this remarkable experience to justify the municipality in pressing forward with the improvement of their city, and at the same time to encourage other municipalities throughout India to undertake similar sanitary work.

Chanda.—The experience of cholera in this district is worthy of notice. The town contains 16,233 inhabitants, and had only one death from cholera. The municipality had carried out improvements in conservancy, drainage and water-supply. In the district, however, there were 551 cholera deaths. In one town in the district the people who suffered from cholera were found to be using polluted water. This was prevented, "and cholera ceased at once."

Raipur.—This district suffered severely from cholera, and showed a death-rate of 5·2 per 1,000 for the country circles. The town of Raipur, with a population of 19,116, had 30 cholera deaths = 1·5 per 1,000. The town conservancy had been well attended to, surface drainage had been considerably extended, the water-sources were well protected, and, what was of great importance, both quality and amount had been improved by abundant rainfall. Before the previous epidemic in 1869 the rainfall was very deficient, and when cholera appeared "every well in the town was dry, and the little water remaining in the tanks was putrid." Under this condition of the water-supply there were 1,200 cases of cholera, and 601 deaths, = a death-rate of 30 per 1,000. The contrast is very striking, and affords proof of the close relation between impure water and cholera during epidemic seasons. It ought to confirm the municipal authorities in their work of improvement, and especially in that of extended water-supply.

Bilaspur and *Sambalpur* are deficient in conservancy arrangements, and their water-supply is of suspicious quality. Nothing in the way of preparation for the epidemic had been done in either of them. At Bilaspur the cholera death-rate was 23 per 1,000, and at Sambalpur 9·8 per 1,000.

5. From the preceding abstract it will be seen that the weight of cholera mortality fell on the country districts and unimproved towns; that the most obvious localizing cause was impure water, and that from which this defect proceeds, namely, foul subsoil and deficient rainfall.

6. The municipal towns appear to be poor, if we judge of this by the amount spent per head on local work. The highest expenditure per head was 6a. 4p. at Nagpur, the lowest 8p. at Sambalpur. The aggregate appears to have been for the whole 20 municipalities about 4½d. per head of the population. Labour is so cheap that the Commissioner says good conservancy can be attained at a cost of 3 to 4 annas a head of the population (probably 4½d. to 6d. a head); with such rates as these there ought to be no difficulty in keeping every town and village throughout these provinces in an efficient sanitary state, exclusive, of course, of improved wells and other improved water sources. But even in the case of Nagpur, which has water laid on to it, the rate per head was about 9½d.

The result of these facts appears to be that, after making every allowance for the poverty of the people, the Sanitary Commissioner may, without fear of excessive cost, press the question of improvement steadily on the local authorities, for, to use his own words, the outlay "does not

“ seem a high rate of insurance against the grievous loss of life which sooner or later will certainly ensue on neglect of conservancy.” It has been well said that to economize in this important matter is to economize the means of economy.

7. *Small-pox*.—As already stated, there were 20,266 deaths from small-pox in 1875, or nearly a third more than from cholera. The present small-pox epidemic began in the extreme west of the Central Provinces in 1871, and has been making progress ever since. The Report under review gives full details of the vaccination department of the public service, and it will only be necessary to state the results very generally.

The whole vaccination establishment is now under the general control and superintendence of the Sanitary Commissioner, and was made up as follows in 1875 :—

1 Deputy Superintendent.
16 Native Superintendents.
130 Vaccinators.

The hospital assistants have also aided in the work.

The total number of persons vaccinated in 1875 amounted to 222,633, or 23 per cent. above the number vaccinated in 1874.

The total successful vaccinations during five years, 1871—1875, have been 574,045.

The results on the death-rates may be represented as follows :—

		Successful Vaccinations per 1,000 of Population.	Deaths from Small-pox per 1,000 of Population.
Total five years, 1871—1875	-	75·53	7·03
Annual average	- - -	15·10	1·40
1875-76	- - - -	26·91	2·73

In the earlier years of the series small-pox was not very prevalent, and the vaccination service was probably not so efficient.

In a number of districts the small-pox mortality has been notably reduced under vaccination, but “ the death-rates from small-pox do not fall in a very constant proportion to the vaccination “ rates.” It is satisfactory to know that this service is increasing in efficiency.

8. *Fevers*.—These are by far the most important death causes in the Central Provinces, as is shown by the fact that, out of 195,023 deaths, “ fevers ” are credited with 120,480 deaths, or 61·9 per cent. of the total mortality. Every district suffers from them, but the death-rates are not equally distributed. This fact is shown in the tables, from which a few of the highest and lowest death-rates may be here abstracted :—

District.	Mortality per 1,000 of the Population from “ Fevers.”		
	Average of Five Years 1870-1874.	1874.	1875.
Nimar - - - -	22·29	21·90	27·22
Burhanpur - - -	22·03	19·63	18·55
Jubbulpore - - -	16·18	18·79	16·96
Upper Godavery -	7·39	9·86	10·52
Sambalpur - - -	8·36	8·47	9·22

In many districts the fever death-rates appear to be increasing, and there is a general uniformity in different years, as is shown in the above abstract, which gives the key to the remedy. Within the districts themselves these fever death-rates vary greatly, as will be seen from the following instances, showing the fever deaths per 1,000 of the population:

Towns.	Fever Deaths per 1,000 in 1875.
Ratanpur - - - -	32·08
Bilaspur - - - -	25·72
Hoshungabad - - -	27·81
Betul - - - -	23·29
Nagpur - - - -	14·25
Chindwara - - - -	10·20
Khurai - - - -	9·26
Jubbulpore, cantonment	7·85
Damoh - - - -	3·90
Lodikhara - - - -	1·91

These data, if representing the current relative proportion of fever deaths in different districts and towns, show clearly where inquiry should be made for the discovery of sources of malaria. There is no information in the present Report on this very important subject, and it may be suggested whether it is not one to which special attention should be given. If the worst localities

in the tables were taken in hand at once there would be little difficulty in dealing with the causes. By pursuing this course Mr. Planck has been able to do good service in the fever localities of the North-West Provinces.

9. This is the chief point of practical importance in the fever statistics, and the relation of fever mortality to the amount of rainfall apparently suggests that inquiry might be made into the condition of the drainage by which the rainfall has to escape.

Take, for example, the following striking points in the relation of rainfall to fever deaths in two or three of the districts during the second half of the years 1872 to 1875 :—

		Saugor.	Betul.	Bilaspur.	Sambalpur.
1872	Monsoon rainfall - -	45·80 in.	35·86 in.	43·92 in.	65·51 in.
	Fever deaths per 1,000 per annum - - -	17·26	22·74	20·67	7·74
1873	Monsoon rainfall - -	40·17 in.	25·78 in.	30·41 in.	48·91 in.
	Fever deaths per 1,000 per annum - - -	14·67	11·19	17·14	7·29
1874	Monsoon rainfall - -	66·56 in.	30·44 in.	48·27 in.	61·87 in.
	Fever deaths per 1,000 per annum - - -	17·64	21·98	23·22	9·39
1875	Monsoon rainfall - -	59·76 in.	52·23 in.	36·95 in.	60·88 in.
	Fever deaths per 1,000 per annum - - -	16·38	16·26	25·06	9·90

From these examples it is evident that there must be some reason (probably connected with local elevation and drainage capabilities) why rainfall should give rise to such very different results in different localities.

It is possible that by following up this inquiry a clue might be found to the death-rates and their causes.

10. There is one other point in the Report, which has an important bearing on the recommendation of the Army Sanitary Commission to make use of the vaccination service for general sanitary purposes, the first result of which received from India is stated as follows :—

“The employment of the vaccination establishment in general sanitary work, as suggested in the orders of Government on the Vaccination Report of these provinces for 1873, and again referred to in the orders on the Report of 1874, has been kept in view. Cholera has been prevalent in nearly all the districts of the provinces during the last two years, and the district vaccination establishments have been found most useful in distributing medicines in the villages suffering from the epidemic, and in urging on the malguzars and the people generally attention to the precautions prescribed with a view to mitigating the ravages of the epidemic, and I believe that, as the men become more trained to the work, and gain the confidence of the people, the district vaccination establishment will every year be found more useful in sanitary work.”

There is thus a fair prospect that, before long, the vaccination establishment will become one of the most efficient agencies for improving public health in India.

11. In conclusion, the experience of the great cholera epidemic of 1875 shows that increasing care should be bestowed on cleansing, draining, and water-supply of the towns in these provinces; but the statistical facts show how large a share of the mortality fell to the village populations, and the great prospective advantages which may be derived from the vaccination establishments in forwarding sanitary improvements among them.

And, as regards the fever mortality, there is quite sufficient in the statistics appended to this Report to show where the chief death-rates take place, and where inquiries into local causes of malaria with a view to their mitigation may be most usefully carried out.

Lastly, it may be suggested that in any future cholera reports the number of villages attacked, and the number which escaped the pestilence, would be a useful addition to the epidemic history of these provinces.

21st May 1877.

No. 9.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the SANITARY COMMISSIONER FOR BERAR for 1875.

The last census of the Assigned Districts was taken in 1867, and as the laws of population and its movements are not yet ascertained in India, the death-rates of districts in this Government are only approximations.

1. In 1875 the registered births were 36·8 per 1,000 of the population. The death-rate including cholera, was above 4 per cent. (40·2 per 1,000), and it would appear to follow that the population has increased since 1867, while the death-rates are taken on the old numbers. When compared with one another, the registration circles present some unexpected results. The lowest registered death-rate in any circle is 16·9 per 1,000; another circle returns a rate of 18·2. In 16 circles the death-rates lie between 2 and 3 per cent. In 12 circles the rate is between 3 and 4 per cent. In 16 circles it lies between 4 and 5 per cent. In 15 circles the death-rate is between

5 and 6 per cent. In 3 circles it is between 6 and 7 per cent. ; and one circle, with the maximum mortality, gives 7·7 per cent.

The facts speak for themselves, and, if correct, would imply that the Berars were undergoing a rapid process of depopulation.

The following abstract from the Report gives the comparative death-rates of the Berars :—

Countries.	Years.	Deaths per 1,000.
Ireland	1872	27·6
England and Wales	1873	21·1
Scotland	1874	23·3
Indian jails	1874	39·9
Oomraotee district	1875	33·8
Ellichpur ditto	1875	39·4
Akola ditto	1875	52·1
Basim ditto	1875	34·1
Woon ditto	1875	29·6
Buldana ditto	1875	48·4
Province of Berar	1875	40·2

The data show clearly that, although it may be possible to obtain the total numbers of deaths in a district, it will not answer any good purpose to calculate percentages, unless the other factor, namely, the population, is known. Dr. Abbott is well aware of this defect, which is a fatal one when the percentages have to be used for sanitary purposes. A census of districts at short intervals is the only remedy.

2. The total number of deaths registered in 1875 was 88,068, against 60,795 in the previous year. Such as it is, the death-rate in 1875 was 37·9 per 1,000 for towns, and 40·7 for villages.

It seems probable that the town population furnishing the deaths has increased since the census of 1867.

There is little doubt that the registration both of births and of deaths has been progressively improving, but the diagnosis of death causes also requires improvement.

Of 88,068 deaths registered in 1875, the following were the principal registered death causes :—

	Deaths.
Fevers	26,076
Cholera	22,465
Bowel Complaints	9,452
Small-pox	927

These numbers, however, cannot be relied on, for Dr. Abbott shows that the heading “all other causes” may include the bulk of the mortality, or that fevers may be credited with a similar fatality. All this is no more than might have been expected. Registration at all to be depended upon for accuracy grows slowly with time ; the real wonder is that so much has been done.

3. Under the “history of the chief diseases during the year” is given some interesting information about *cholera*. Dr. Abbott considers that the epidemic travelled from Bombay into the Assigned Districts. The deaths in Bombay Presidency are given as follow: February, 1 ; March, 10 ; April, 795 ; May, 5,359. In this last month cholera invaded the Assigned Districts. The first case appeared in the village of Takli, on the banks of the Poorna, in the Buldana district, near its western point, where the railway enters the district. Next day it appeared on the opposite side of the river, at some distance, and, on comparing dates with localities, the epidemic appears to have advanced with a front curved to the eastward until it covered the country, travelling in some directions more speedily than in others. It took 66 days to traverse a distance of 90 miles from west to east. The monthly deaths from cholera were :—

May	249
June	3,625
July	10,374
August	5,840
September	2,007
October	318
November	52

Total deaths - 22,465

4. The following abstract shows the ratio of attacked villages in each district :—

Districts.	Total Number of Villages.	Villages affected with Cholera.	Villages not affected with Cholera.
Buldana	894	495	899
Akola	980	708	272
Ellichpur	475	256	219
Oomraotee	1,060	434	626
Basim	796	245	551
Woon	1,222	293	929
Total	5,427	2,431	2,996

During this epidemic the proportion of attacked villages was nearly 45 per cent. of the whole number, a ratio many times greater than in the southern districts of India generally, while at the same time the death-rate registered from cholera to the population of 1867 was above 10·2 per 1,000. Intensity of the epidemic in this instance co-existed with its prevalence at a greater number of points of the country.

5. There were facts observed which seemed to point to importation of the disease into villages. The following is their character.

The first village attacked was Takli, and the occurrence is accounted for as follows :—"A Manbhao from where the disease was prevalent came on a visit. He was ill on arrival, and two days afterwards the disease appeared in Takli. . . . A Manbhao, who was ill at Takli thought a change would do him good, and had himself removed to Dudgaon, where he died, and in two days the disease broke out here also."

Other cases are referred to as similar, "but in an equal if not greater number there was no evidence whatsoever in favour of importation."

Cases of this class were specially provided for in the Instructions for the Indian Cholera Inquiry drawn up by the Army Sanitary Commission many years ago, and it was therein pointed out that such events were not in themselves proofs of importation, but were only facts to be inquired into with the view of ascertaining whether they were anything more than mere coincidences. As they stand, the cases cannot be accepted as proofs of importation, especially as the entire process of the transport, reception, incubation, and appearance of the disease occupied no more than two days, while the history of the imported cases and of those which followed them is, with the single fact of the two days' sequence, omitted.

6. The relation of atmospheric changes to the progress of cholera appears not to have been very definite. There is a slight elevation of temperature above the mean in cholera years, but this is all that can be said at present. The subsoil water level was nearer the surface in some cholera months than in others. It was nearer the surface on the average in 1875 than in the preceding year.

The depth from the surface and the rainfall compared with mortality were as follow :—

Months.				Depth of Water Level.	Deaths from Cholera.	Rainfall.
				Ft. In.		
May	-	-	-	34 10	249	·77
June	-	-	-	34 8	3,625	7·25
July	-	-	-	33 10	10,374	·74
August	-	-	-	31 7	5,840	4·82
September	-	-	-	25 3	2,007	10·06
October	-	-	-	23 1	318	1·27

There was at least a gradual rise in the water level from the period of maximum of cholera.

There is no definite information given about the sanitary state of affected villages as regards cleansing, water-supply, drainage, or other sanitary conditions with reference to cholera.

7. *Fevers*.—As already stated, the fever deaths amounted in 1875 to 26,076. The "fever" mortality varies considerably in different years, "and the differences in the mortality in each year can be accounted for by meteorological conditions." But Dr. Abbott appears to think that the rule applies locally rather than generally, and that "it is not so much the unhealthiness of the country surrounding our habitations as of the sites of them that prejudicially affects the mortality which occurs among us." Local meteorology, both aerial and terrestrial, are thus of greater importance to local health than general conditions affecting entire districts. The principle with certain limitations is a well known one, and leads to the conclusion which similar inquiries have established in other parts of India, namely, that disease causes, whether natural or superinduced, may be most effectually dealt with by studying and dealing with local details of sanitary work. If every one keeps his own house and property healthy, improved sanitary condition of districts will be the result.

8. *Bowel complaints* were as usual very prevalent, and in 1875 they gave rise to a death rate of 9·5 per 1,000. No additional information is contained in the present Report as to their causes, but there are a few comparisons showing their relative prevalence which it may be useful to quote:—

Locality.	Death-rates per 1,000, 1874.
Punjab	·94
North-West Provinces	1·98
Oude	·38
Central Provinces	1·95
Berar	8·5
Indian jails	16·88

With these figures on record, the question must again be asked why it is that mortality from bowel complaints shows these differences, and also why Indian jails should have a death-rate

from bowel diseases almost double that prevailing in the Berars, where the death-rates from them during the last five years have been as follow :—

1871	-	-	-	-	3.9 per 1,000.
1872	-	-	-	-	10.0 "
1873	-	-	-	-	5.0 "
1874	-	-	-	-	8.5 "
1875	-	-	-	-	9.5 "

Dr. Abbott states that "the annual mortality from fevers and bowel complaints can be accounted for by meteorological conditions," viz., rainfall, humidity, and distance of water from the surface of the ground.

Such conditions, no doubt, have a general influence on the prevalence of these diseases, but the real local conditions, although they may be influenced by them, can scarcely be said to be included in them. They must be sought for and dealt with on the spot.

9. *Progress of Sanitary Improvement.*—Dr. Abbott's record of personal proceedings and of sanitary progress shows that much has been done already on the spot, even since his report of last year. But, unfortunately, to his other work has been added the control over all the dispensaries in the province; this, with vaccination inspection, he says, "took up so much of my time that I was not able to pay as much attention to the sanitary condition of the places visited as was heretofore my custom." This is unfortunate, especially as there is plenty of sanitary work to do. He says: "In the valley of Berar it is impossible for the people to keep their villages clean, as there is no waste land about them to resort to for the purposes of nature, and to store their refuse on, and the result is the people have to ease themselves on the road sides and approaches to villages." It is impossible that such a state of things can exist without danger to health. It was referred to last year, and it is some satisfaction to learn from the Commissioner's letter prefixed to the Report under review that instructions have been issued to district officers "empowering them to take up land for the extension of village dwellings, for disposal of refuse, for stalling cattle, and for public resort, the owners being compensated for the same." This is the first step towards improvement, which, from the facts in this and preceding Reports, will lead to great amelioration in the health of villages.

Still, improvement has been advancing, for Dr. Abbott says that, "from a sanitary point of view, Berar, as it now is, is incomparable with the Berar of five or six years since. But much as has been done, still more remains to be accomplished." He recommends enlargement of village sites, tree planting, "above all, water must be stored where it is required." Looking at these recommendations generally, the question arises whether, after all, the enforced filth of villages and their immediate environs, with bad and insufficient water, has not much to do with both fevers and bowel complaints. The last recommendation is a very important one, namely, that "people should be further instructed in the laws of health and be made to act on them." Some simple vernacular expositions and directions would do much good in this matter, but, as it is, the improvements which have been effected are stated to be entirely due to proceedings of this class through the Commissioner and district officers taken by the village officials, eleven of whom we are glad to see have been singled out for special mention.

The civil stations, especially Yeotmal, Oomraotee, and Akola, have been more or less improved during the year.

The total outlay in 1875 for sanitary improvements and conservancy has been 3,458*l.* for municipal towns, and 9,202*l.* for other towns and villages. It is feared that these amounts, small as they are, will be reduced from falling off of funds. A small cess is suggested by Dr. Abbott to meet the deficiency. The subject was, however, under consideration.

Although little has been spent, much good work has been done by the people themselves, so much, indeed, that Dr. Abbott considers it necessary to reply to a question as to how it happens that epidemics nevertheless exist. The answer is supplied by the facts in the Report. Until village conservancy is systematized and regulated and rendered practicable by providing space, and by removing cattle to the outskirts, and until the water-supply, which is doubtless as bad in quality as it is deficient in quantity, is improved, there will be periodical outbreaks of cholera and other epidemics. Mere apparent surface work is not all that is needed. Improvement must go deeper, and provide for the purity of the village subsoil and for the safety of the water which it supplies.

Dr. Abbott clearly shows that, even admitting cholera to have its own laws, "that its ravages may be mitigated by sanitary measures we have proof in our jail statistics, as also from the fact that the disease in Berar was more severe in the valley than in the highlands, where the villages are cleaner, and not so crowded as in the plains." Even as regards the question of removing cattle out of villages he shows that the difficulties are more apparent than real, that at certain seasons the people do this of their own accord, and that some little help for sheds would remove every obstacle to this great improvement. This matter also is under consideration.

Dr. Abbott's Report is an excellent practical document, and may safely be taken as a guide for the direction in which future improvements ought to be carried out.

We are glad to see that the thanks of the Resident have been conveyed to Dr. Abbott in acknowledgment of the manner in which his duties have been discharged, and that this has been concurred in by the Government of India.

25th May 1877.

No. 10.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the
SANITARY COMMISSIONER for BRITISH BURMA for 1875.

A large part of the present Report is devoted to meteorology, vital statistics, jails, and vaccination, and there is not so much information as could be wished on sanitary condition. The Report is, nevertheless, in advance of those which have preceded it in several important particulars, and some of the facts it contains are new to the sanitary history of this province.

1. Registration of deaths was carried out in 14 towns and 14 rural circles in British Burma in 1875. The assigned population amounts to 2,866,473, and the registered deaths to 40,370 = a death-rate of 14.08 per 1,000. The lowest rate was 7.75 per 1,000 at Shwe-gyeen; the highest was 40.55 per 1,000 at Bassein town, in which 1,133 deaths were registered out of a population of about 28,000. In six towns the death-rates exceed 22 per 1,000, and these are the only instances, probably, for which the death-rates are approximately correct. Registration is still very defective in many rural circles, and in several of the towns. One peculiarity of the registration of deaths is that the numbers are returned once a quarter in 15 towns and districts, a practice which, even if it were sufficient for making up the annual statistics, would be of no use for sanitary purposes and the prevention of disease, since for such objects the sanitary authority must be kept informed of the amount and kind of epidemic disease current in the districts over which the authority is exercised. It appears to be unnecessary to say more on the subject, as it is receiving the attention of the Government.

2. The following were the chief registered death causes in 1875 :—

	Number of Deaths.
Fevers	25,075
Bowel complaints	5,212
Small-pox	752
Cholera	761
All others	8,570
	40,370

Taking the registration as it is, it will be seen that the diseases classed as fevers and bowel complaints were the cause of three-fourths of the registered mortality.

3. The registered *fever* death-rate for the districts and towns in the tables was 8.74 per 1,000, and in 14 towns with populations over 5,000 the fever death-rate was 6½ per 1,000. The lowest rate, 2.71 per 1,000, was returned from Henzada with a population of 15,482, and the highest, 17.9 per 1,000, from Shwe-gyeen with 7,486 inhabitants. But there is reason to believe that the fever death-rate expresses only the diagnosis made by the village officer, whose qualifications in the matter appears to be limited to the classification of diseases with heat of skin under the general term “fever,” and all bowel fluxes under one general designation of “bowel complaints,” as may be learned from the account of this matter given by the Sanitary Commissioner, who says “that the ignorant village headmen who record deaths in each village invariably attributed to fever all deaths resulting from diseases attended with febrile symptoms as indicated by hot skin, quickened respiration, or delirium; deaths from pneumonia, for instance, which is a more common disease than is generally thought amongst the inhabitants of this country, being invariably attributed to fever.” A comparison between the fever death-rates among the civil population, as registered, and among prisoners in jails, as diagnosed by Medical Officers will show how large the probable error in the mortuary statistics really is :—

	Ratio of Fever Deaths per 1,000 Population.
Civil population	8.74
Jails	1.75

The deduction from these comparative statements is that the headmen's diagnoses are worth little for sanitary purposes, and that possibly improvement might be made in fever diagnosis if some simple instructions were printed and sent to the village registrars defining the diseases to be classed as “fevers.”

A similar remark applies to the diagnosis of bowel complaints (“diarrhoea and dysentery”), in which, however, the balance is on the other side, as will be seen by the following comparisons :—

	Ratio of Bowel Complaint Deaths per 1,000 Population.
Jails	6.59
Civil population	1.81

As reference has been made to the jails, it may be well to state the following important points of experience from them. Taken on the daily average number of prisoners, the death-rate was 24½ per 1,000. The lowest rate was 15.2 per 1,000 at Bassein, the highest 69.1 per 1,000 at Akyab, rates which compare favourably with those in Indian jails.

The jail wards are raised on post 12 to 14 feet above ground, and amply ventilated. The dry-earth conservancy system is in use, and the soil is applied to gardens. All refuse water is carried away. Culinary water is obtained from wells. There is deficiency of superficial area,

36 square feet per man, and it is found that even raised and ventilated wards do not prevent the results of lowering the space. The chief death causes, "diarrhoea and dysentery," gave rise to 6.9 per 1,000 mortality. The fever death-rate is remarkably low.

4. In our remarks on the Burma Sanitary Report of 1873 attention was called to the nature of these fevers prevailing among the civil population, and in the Report under review it is stated that the fevers "are principally febricula and quotidian intermittent of a mild type. But in certain localities, Mendoon, in the north of Pegu, and the Youzaleen, for instance, paludal fevers of a severe type attended with cerebral symptoms no doubt occur and are very rapidly fatal, but these localities are very few and are well known places, situated on low hills at the foot of high mountains or on spurs leading from the mountain ranges."

Civil Medical Officers were invited to state the nature of the fevers, but as yet only two reports had been received, one by Dr. Crombie of Rangoon, which affords important information on the subject. As a proof of the mildness of Burmese fevers, Dr. Crombie states that, out of 145 post-mortem examinations, he had found only 4 cases of enlarged spleen, two of which were in natives of India and one a Chinaman. He says that the commonest fever in Rangoon Jail is febricula, a disease of three or four days' duration; next in frequency comes ague, of which disease interesting temperature charts are given to show the progress of the cases.

Remittent fevers are rare. Perhaps the most important fevers in their sanitary relations are classed under "continued fevers," from the fact that some of the cases resemble enteric fever, of which Dr. Crombie states that he had three fatal cases "in which the diagnosis was placed beyond a doubt on the post-mortem table, . . . I believe the first that have been registered under that name in Burma." The notes of a fourth case, not fatal, are also given. There is reason to believe that this inquiry into the nature of these local fevers will result in showing how largely the "enteric element" enters into their history. It is now (but only recently) known that the fatal fever among British troops in India is enteric fever, and every year's experience shows that the same fever exists among the Native population. It follows from the facts that increasing attention must be devoted to all measures required for removing filth and other putrescible matter from towns and dwellings, and for protecting wells and other water sources from pollution.

A distinct step has thus been gained in the practical sanitary history of these countries.

5. It is not easy to account for the comparative mildness of periodic fevers in a country of great rivers and river deltas, where, at first sight, the local conditions are so favourable to their existence.

There are certain facts, nevertheless, stated by Dr. Crombie which throw some light on this question. In the first place, natives of Lower Bengal suffer from fevers in Burma very much as they would do at home. These immigrants "thrive badly in Burma," and the 20 or 30 men who are always in the depôt hospital are probably the most miserable looking creatures on this side the bay. "They present every variety of the evidences of malarial poisoning." Race, stamina, and predisposition are thus against the Bengalee, but the malarial poison is in Burma. The geological features of the Burma deltas generally are those not of recent alluvium, like the Ganges delta, which is being constantly added to by fresh deposit, but of ancient alluvium raised from the sea bottom and not subject to additions except over 200 square miles; "the fact of the elevation of the Native houses on piles has probably much to do with it" (less fever), "but, as a matter of fact, a large number of Native houses are not so raised, or are only so to the extent of a few feet."

This remark is an important one, and suggests inquiry into the proportion of fever among people who sleep on the ground level and those who sleep on raised floors. It is just possible that the largest fever ratios may come from the ground-floor houses.

6. As regards the causes of enteric fever, the Sanitary Commissioner says:—

"Many of the exciting causes of enteric fever exist in the towns and villages of this province, such as filthy and stagnant drains, and cess-pits in close proximity to sources of water-supply, and it is only reasonable to suppose that deaths do occur from it which are attributed to remittent fever, especially when the marked nature of some of the most important symptoms is considered, and that it has been found to exist in a jail, the sanitary condition of which is far superior to anything to be hoped for amongst the general population of towns and villages."

The conclusion from the whole of the facts appears to be that a not inconsiderable amount of the civil mortality registered from fever is really due to enteric complications, the local causes of which are very evident, and that in dealing with the prevention of Burmese fevers this aspect of the case must be kept in view.

It is probable, also, that periodic fevers are not of fatal character, and that their comparative mildness is in great part due to the Native habit of living in houses raised on piles, by which the immediate ground malaria, always the most important to health, is in great measure cut off.

Experience of this class is of great importance for India, and might very well be taken into consideration in providing living accommodation in many parts of the country.

7. One apparently exceptional condition co-existing with mild periodic fevers in Burma is the very large amount of rainfall.

There are 13 stations at which this climatic element is registered, and the tables show that the least fall during 1875 was 43.9 in. at Promé; Rangoon had a rainfall of 79½ in.; Tongoo, of 93 in.; Bassein, 114 in.; Moulmein and Tavoy, 229½ in.; and Sandway, 230 in.

It is evident that excessive rainfall is not necessarily accompanied with fatal paludal fevers in tropical climates, and the Burmese experience confirms, in another way, the observation made in India that the chief danger lies in the state of the subsoil after rain. If the rainfall waterlogs the subsoil, the first condition for the production of malarial fever is present, whatever the amount of rainfall may be. In Burma inquiry might easily be made as to what becomes of the rain. It

seems probable that it escapes over the surface, or drains readily through the subsoil, in any case that it does not stagnate, except in specially unfavourable localities, and in such, where they exist, it would be important for sanitary work to ascertain the comparative amount and character of fevers which prevail. The facts, as they stand, appear to point to the conclusion that the heavy rainfall could be best removed by improved surface drainage, where needed, and that in a few exceptional localities only would drainage operations, properly so called, be required.

In the special case mentioned, where severe paludal fevers occur on the skirts of mountain ranges, the causes of malaria may be at a distance from the town sites, and in the upper ends of valleys, or in districts resembling the Terai of Northern India. But the whole subject well merits investigation.

8. *Cholera*.—There were 761 deaths registered as cholera in 1875, but it seems doubtful if many of them were true epidemic cases. The disease existed from March to December in different parts of the country.

The same law of diffusion was observed as in India, and only a small proportion of groups of population was attacked.

The ratios are given for only 6 districts, and these show that, out of 1,423 villages, 108 only had cholera cases. No account is given of the state of the attacked villages.

9. *Small-pox*.—There were 752 deaths from this disease. "The greatest number of deaths were in March, at which season the inoculators do the greatest part of their work." The fact suggests the remedy. In spite of inoculation, the deaths were comparatively few, fewer, indeed, than the ratio in England and Wales in non-epidemic years. In four districts and seven towns there was no small-pox, a result to which vaccination is said to have "contributed in some degree." "This is especially noticeable wherever the civil authorities and the civil surgeons take an interest in the work of vaccination." The total vaccinations in 1875 amounted to 24,381, of which 20,112, or 82·89 per cent., were successful.

10. *Bowel Complaints*.—There were 5,312 deaths registered under this head in 1875. In two towns the death ratios from these diseases were 10·35 and 18·83 per 1,000. It is satisfactory to learn from the Report that inquiry is to be made into the causes of this high mortality, and it may be suggested that an opportunity may be taken to learn what diseases are registered under this head. An inquiry in Madras Presidency on the same subject has resulted in an order to class the diseases in future as "cholera."

11. *Leprosy*.—There is not much of importance under this head. The total number of lepers, according to the last Census, was 3,203 = 1·20 per 1,000 of the population.

The practical results of the inquiry up to the present time appear to be that leprosy is not contagious; that in one third of the cases it was hereditary; that the conditions which produce malarious fevers have no influence in the causation of leprosy; that fish diet is not a cause of the disease; that by far the greater proportion of cases occur among natives of India; and lastly, "all Medical Officers here consider that poverty, dirt, and insufficient food are the principal exciting causes of leprosy."

12. *Civil Sanitary Improvements*.—Municipalities have been established at Rangoon, Moulmein, Akyab, Bassein, Toungoo, Prome, Henzada, but all of them have not furnished reports. Those which have done so appear to be engaged in carrying out the simpler reforms, but no work of any great importance has been undertaken.

The following brief abstract will show the nature of measures in operation.

Rangoon.—The town has been lighted. 7,595 lineal feet of brick drains have been laid down, other open drains have been arched over, but to drain the town effectually there should be plans, surveys, a proper system, and water. Tanks have been excavated and deepened, cavities filled up, and large areas of the strand bank have been filled in. A dry-earth latrine has been put up on trial. The town pumps, 21 in number, have been put in good order, and the wells improved, but a proper water-supply is required. Conservancy arrangements have been improved, street watering has been extended. But all night-soil is thrown into the river, a most unsafe practice.

Moulmein.—Very little has been done during the year, except current surface cleansing. Cesspits with their abominations and dangers are in use, and low-lying districts are liable to flooding to such an extent that "stagnant water cannot be said to exist." The whole sanitary work has evidently to be done.

Akyab.—The work done here has been apparently improvement in surface drainage and tree planting.

Bassein.—The chief work done is road making, which appears to have been much required, but the Report deals rather with what it is desirable to do than with anything that has been done, except the building of a slaughter-house.

Prome.—Water is obtained from the Irrawaddy, but requires filtering. None of the town wells are fit for drinking. There are no drains, only ditches which carry the water into a swamp without an outlet. Two roads have been metalled, the main streets are fairly kept, but the by-lanes are neglected. Conservancy very defective. Cesspools are in use, no public latrines.

Tavoy.—Nothing reported in the way of sanitary work, except surface cleansing, &c.

All that can be said about these reports is that a beginning has scarcely been made in initiating public health improvements, and that, as the municipalities are now organized, it would be most desirable that the towns should be inspected by the Sanitary Commissioner and some Engineering Officer, with a view of obtaining a grasp over the problem presented by each town, and advising the municipalities on the most efficient and economical methods of dealing with evils brought to light. In this way much useless or unnecessarily costly work might be avoided, and consistent plans adopted for future guidance.

13. The Commissioner states that "no improvements have been effected in the sanitary state of the villages of the province, but much might be done in the way of simple improvements, to

"be carried out by the people themselves; many of them are situated on the banks of rivers and the houses being all raised from 3 to 10 feet off the ground, they are washed clean once a year at least by the rise of the rivers, which on falling leave nothing but pure silt behind them; this natural annual cleansing is the most satisfactory sanitary agency at work in the province at present."

The facts suggest that much good might possibly be done by a few simple rules drawn up in the vernacular, pointing out the chief sources of danger to health in towns and villages, and advising simple and easily applied remedies.

14. The Report as a whole is of more interest than others which have preceded it. We have suggested some points of inquiry regarding the more important diseases, which, together with what we have advised regarding the initiatory proceedings in towns and villages, includes the main practical results of the year. It would be well if the municipalities were made to understand that what is now required of them is to put their towns in a proper sanitary state with as little delay as possible, which is indeed the main duty devolving on them by their office.

4th June 1877.

No. 11.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the CALCUTTA MUNICIPALITY for 1875.

1. Like preceding Reports, the present one gives a detailed account of the whole round of municipal work during the year, only part of which, that relating to public health, comes within the scope of the Army Sanitary Commission. In this department, as in others, there is evidence of activity and progress, although the work already done is only a small part of the whole. The Justices, in their administrative capacity, have considered "with great care," Mr. Hogg tells us, proposals for—

- (1st.) Completing the drainage works.
- (2nd.) Alternative schemes for doubling and extending the water-supply.
- (3rd.) Improvement of bustees.
- (4th.) Reorganization of drainage, road and conservancy departments.

And the municipal officers appear to have been zealously engaged in their respective duties.

2. The drainage scheme now in progress provides for 39 miles of brick sewers, and 136½ miles of pipe sewers. Of these lengths 37¾ miles of brick sewer and 37 miles of pipe sewer have been completed, leaving 1½ miles of brick sewer and 99½ miles of pipe sewer yet to be constructed. During the year 1875 drainage operations were carried out in 81 streets and places, and a total length of 41,742 feet of sewers was laid down. At the same rate of progress a considerable number of years must elapse before Calcutta will have reached the completion of the requisite drainage lines, and after these are laid the drainage of areas and houses will have to be done before the public health can receive the full benefit of past outlay.

Provision is made in the drainage plan for storm floods, but the usual flow is raised at the outfall to a height of 8 feet average by steam power, and some idea may be formed of the relief which the sewer lines must give to the water-logged and foul subsoil by the statement made by the Engineer that 2,357,478 cubic feet of sewage water are pumped out daily, or 2½ times the daily consumption of water.

At present little of the water-supply passes direct to the sewers, and it is mostly disposed of by evaporation and soakage, so that probably nearly the whole work of the pumping establishment consists in keeping down the subsoil water level, and cleansing the subsoil itself.

3. During the year 1875 the water-supply averaged about 6¼ millions of gallons per diem. During the same year 820 houses were connected with the water mains, raising the total connections to 8,970 houses. As regards the quality of the water, the analyst shows that it compares very favourably with the London water, as follows:—

	Chlorine in Parts per Million.	Total Ammonia in Parts per Million.	Total solid Parts per Million.
Calcutta hydrant water, average of six months, 1875 - - -	9.34	.066	199.9
Southwark Company's water - - -	16.8	.160	261.9
New River Company's water - - -	15.7	.081	252.9

The proportion of ammonia in the Calcutta water is tolerably constant, but the amount of chlorine varies considerably, and has a relation to the tide and rainfall. The main defects of the Calcutta supply are that there is too little water available, and that the filtration is at times not all that could be desired. The analyst admits that the water is turbid and unsightly, but his explanation that this is a proof of the purity of the water can scarcely be accepted as an excuse.

Deficiency of filtered water has been temporarily met by providing unfiltered water for street watering and other purposes.

This outlay, as well as much of the outlay to be incurred for extending the filtered supply, would have been avoided if the course recommended by the Army Sanitary Commission above

ten years ago had been adopted, which was, that the projected works should be capable of supplying double the amount of water then proposed and since provided.

To double the filtered supply now, it appears that besides engine power there would be required three settling tanks, twelve filters, and a brick culvert 13 miles long.

4. It appears that the drainage system has to be extended under considerable difficulties, such as the following, described by the Engineer :—

“ Calcutta is a most difficult city to improve. Buildings have been dropped down in a very peculiar fashion, without regard to regularity or possible future improvement, and with a scarcity of roads where most wanted. Therefore, in laying out the third class sewers, it has been necessary to deal with the materials at hand, and to make the best of them.

“ The first and second class sewers of the drainage system having been completed, they now receive the entire sewage and night-soil of the city, though not exactly in the form it could be desired, or in a manner conducing to the effectual working of the sewers. This can only be expected when an augmented water-supply is available, when the pipe sewers are generally introduced, and every public and private privy connected, and the open ditches as far as possible abolished.”

The drainage system has hence, up to the present time, lowered the subsoil water level, cleansed the subsoil, and removed, partly by hand labour, the entire night-soil of about 450,000 people.

The waterworks have at the same time rendered available for this population about 14 gallons of filtered water per head per diem.

5. Considering what Calcutta was a short time ago, these are certainly no inconsiderable improvements to have carried out in a few years, and to these must be added improved roads and better surface drainage.

There are at present 131½ miles of road in the city, of which 81½ miles are metalled with stone, and 50 miles with brick.

If improvements of this class were all that were requisite for Calcutta, we should naturally anticipate a marked reduction in death-rates. But unfortunately the drainage of a city like Calcutta is only one element in the provision of healthy houses, and until this latter essential improvement is carried out in the worse districts, epidemic years will always show high death-rates. The late Officer of Health, Dr. Tonnere has enabled us to estimate, in a general way, the probable results to health of more extended improvements, especially in dwellings, as follows.

The death-rate during 1875, which was a great cholera epidemic year, was 33·91 per 1,000 on the census of 1872.

The deaths from zymotic diseases during the last 10 years, 1866—1875, when contrasted with the same death causes in 1875, show the following comparative results :—

	Average Annual Number of Deaths for the 10 Years 1866—1875.	Total Deaths in 1875.
Fevers	4,459	5,444
Cholera	2,459	1,726
Dysentery	1,453	1,274
Diarrhoea	689	821

This abstract shows an increase of fever, a decrease of cholera and dysentery, and a slight increase of diarrhoea, in the epidemic year 1875. The 10-year period includes years of dormant cholera, so that 1875 contrasts favourably with the preceding years, except in the element of fever. Dr. Tonnere further affords us the means of localizing these zymotic death-rates between the northern division of Calcutta, which is the poorest and least-improved, and the southern division, in which improvements have been more extensively carried out among a better class of population. The results of the comparison are as follow :—

	Deaths per 1,000 of Population.	
	Northern Division.	Southern Division.
Fevers	8·77	3·39
Cholera	2·79	1·07
Dysentery	2·15	·69
Diarrhoea	1·48	·85

This is not the first year in which the comparison has been made, and it suggests the obvious question whether among people living in the same city it may not be possible eventually to lower these death-rates by sanitary improvements all over Calcutta.

6. With the view of estimating the relative death-rates in the districts, a suggestion was made by the Commission, in their Memorandum on last year's Municipal Report, that this important information might possibly be obtained by inquiry. In the present Report the total deaths are divided among the 18 police sections, but, as the population of the sections is not given, no use can be made of the information. Recourse must, therefore, be had to the results of sanitary inspections, including the state of the bustees (by far the most important sanitary element at the present time), given by Dr. Tonnere, and by Dr. Payne, the present Officer of Health, and it is

not too much to say that the only subject of wonder is that, with such a state of things as these inspections have elicited, Calcutta is not the continual seat of devastating pestilences. On former occasions we have noticed Dr. Tonnerre's reports, and it will be sufficient to state generally the results of examinations made by the present energetic Health Officer, Dr. Payne. In a report to the Chairman of the Corporation, made on 20th February 1877, Dr. Payne shows that the death-rates in different sections of Calcutta vary between 11·6 per 1,000 in Waterloo Street and 33·7 per 1,000 in Toltolla; that the death-rate from zymotic diseases varies from 7·3 per 1,000 of the population in Waterloo Street to 23 per 1,000 in Toltolla; and that, while 57½ per cent. of the total deaths are due to zymotic diseases in Park Street district, and 60·7 per cent. in Waterloo Street, Toltolla has nearly 70 per cent. of its mortality, and Shampookur and Coomartooly districts have 75 per cent. of their mortality, due to zymotics. In Waterloo Street section there is no bustee population. In Toltolla 31½ per cent. of the population live in bustees, and in the other districts used in the above comparison the proportions are somewhat less.

The bustee dwellings are described as being erected round quadrangular spaces, which "are indescribably filthy, and the atmosphere is that of a midden privy." This is caused by digging latrine pits in succession all over the space, which are never covered; "thus the people live on soil saturated with and largely composed of excrement." Tank water is in such a state that it occupies a place "intermediate between urine and liquid sewage; . . . they drink excrement in the water, and bathe in liquid sewage, and the air they breathe is thick with poisonous exhalations. . . . From whatever side the insanitary state of Calcutta is regarded," Dr. Payne says, "it is found to have its centre and origin in the home life of bustees." In consequence of remarks previously made on the subject by the Army Sanitary Commission, the Government of Bengal urged prompt measures of bustee improvement being adopted by the Justices, and a special Committee was appointed to inquire into the subject.

The deplorable state of the population, and the need of reform, are fully admitted after inspection by the Committee; but too much stress appears to be laid in their report on the difficulties in the way of improvement. They say:—"According to the present land system in Calcutta, the land on which each village is built belongs to proprietors who lease out plots of land to tenants, and the tenants construct their own huts according to their own ideas of convenience and comfort, the owners of the land exercising no sort of efficient control over the disposition of the huts. They let out their land at a very high rate of rent, and must therefore be held responsible for the state in which it is kept;" and the root of the reform the Committee proposes is that the costs of the special improvements should be borne by the ground landlords.

7. The details of improvement can only be decided on the spot, but the following proposals of the Committee appear to contain a good instalment of what is required:—

Owners to provide private roads, drained, and of sufficient width.

All unlet waste lands to be raised, drained, and brought to a proper level, and low marshy lands and pools to be filled up.

Filthy unwholesome tanks to be filled up or improved, and waste lands to be kept clean.

Unfortunately these things are to be done "where reasonably practicable" only.

The tenants on their side must provide latrines and drain their premises into drains provided by their landlords, and place in a proper state the land held by them on lease.

There are no doubt difficulties and outlay to be incurred in these improvements, but the first thing to do is to get hold of a right principle of action. These bustees are not away in the open country, where the landlord and his deficiencies can hurt nobody but himself, or those who chose to lease his land; they are, on the contrary, part of a large city, every family of which has an interest in keeping epidemic disease away from its own doors. No man has a right to use his own property so as to injure any one else, and it is better to keep all questions about improvement in such cases free of questions of "practicability," because, if any bustee cannot be improved, it should be dealt with as similar cases are dealt with elsewhere, namely, it should be shut up or pulled down. The really important question is not the point of "practicability," but it is in each case to settle at once the class of improvements most immediately required, and those which may be delayed until means accrue for their completion. From the reports themselves it is to be feared that the most necessary improvements are precisely those regarding which the Committee has introduced the proviso of "reasonable practicability." It appears as if, in many cases, the first thing to do is to drain or fill up marshy ground and tanks in and around the villages, and to provide them with water.

These things are part of the sanitary conditions of sites, without which none should be occupied in a large city, especially in an Indian climate; and when this foundation is laid, the municipal authorities could bring the whole number of bustees (given in Dr. Payne's list at 135, with a population of 76,000) within the scope of ordinary sanitary administration. If, in times past, landlords have profited by keeping back necessary expenditure (probably from not recognizing its necessity for protecting the public health), it is no hardship on them to call on them now, under pain, where necessary, of shutting up unwholesome properties, to improve them; but it is a very great hardship to expose, not only their tenants, but the entire community, to outbreaks of pestilential disease, merely to save themselves the outlay required to put their property in a tenable state.

That this must be done is evident from the facts, and the proper authorities must decide to what extent the landlords and the ratepayers generally should be taxed for improving the state of things which never should have existed. Of course a great difficulty arises from the fact of the poor tenant erecting his own house, but still existing sanitary laws would enable unwholesome houses, occupied by proprietors, to be dealt with just as if they were occupied by tenants.

8. The Municipal Report states that, according to the amended law, the new Corporation will have power to compel owners of bustee property to execute improvements, but, to guard against "the not unlikely contingency" of remissness in this duty, the Government has power under the

law to cause any locality to be inspected by the Sanitary Commissioner for Bengal, and to direct the Corporation to carry out his recommendations, or, in default, to cause the work to be done and the cost charged to the owner of the land. This is as it should be; it is very satisfactory, however, to learn from the Report that one or two proprietors have of their own accord begun the work of improvement. It would be well that proprietors should see not only the duty but the eventual economy to themselves of improving their properties and, together with this, the habits, health, and productive power of their tenants.

It is a matter of constant experience that unhealthy degraded tenants can never be profitable to themselves or to any one else.

The sketch of the condition of the bustees already given from Dr. Payne's report includes Goa Bagan, in which a severe outbreak of cholera took place, the result of which was that "among 599 persons living on an area of 22 beeghas there died no less than 28, or 4·67 per cent., of the population in a period of 18 days." The mere loss of productive labour and means of paying rent accompanying this single incident in the history of one bustee should lead landlords to inquire whether, on the whole, the sanitary improvement of such property would not be a remunerative investment. Dr. Payne shows how impracticable it is to deal with the evils under existing arrangements. He says:—"Calcutta is never free from cholera. In one spot this year, in another the next, it becomes the duty of the Health Department to meet the local calamity as it best can, and to demonstrate the futility of its piecemeal work for all purposes of general or lasting improvement. The root of the evil remains untouched, and the fruit must continue to be reaped, until it be possible to change the habits of the people by so ordering the arrangements of bustee life that common decency and cleanliness may either be the passive result of better means, or be actively enforced by authority." It is very old experience that, just as are the surroundings of the people, such are the habits of the people, and one great object of sanitary improvement is to afford to the poor means of improving their habits.

9. There are other points of interest in the present reports; but, for the first time, the condition of the bustees and the influence of this on the public health of Calcutta appears to have received the prominence it deserves. The Commission, therefore, desire to give this subject a chief place in their remarks on the Report of 1875. If it be practicable to do so, it would be a most useful part of the Officer of Health's duty to work out the sanitary statistics of every bustee in Calcutta, together with a detail of local defects, and the nature of the remedies required for their removal. By doing so he would render efficient aid to the municipal officers, as well as to the Government, in the proper direction of improvements. We make this suggestion, because we fully concur with Dr. Payne in his view, already stated, that in the foul condition of these villages the insanitary state of Calcutta has its centre and origin. This proposition has become more evident since improvements in drainage, water-supply, and conservancy of the city generally have been making progress.

10. The most important practical results of the Calcutta Municipality Report for 1875 are:—

- 1st. The initiation of bustee reform, which should be vigorously followed up.
- 2nd. The extension of drainage lines.
- 3rd. The recognized necessity for doubling the filtered water-supply.
- 4th. The evidence which the Report affords of increasing interest taken in the public health of the metropolis of India by the local authorities, and the continued progress of the work.

And, lastly, it may be stated, as another instance of successful application of sanitary principles, that suitable precautions were taken by the Municipality during the visit of His Royal Highness the Prince of Wales, and, notwithstanding the large influx of foreign population into Calcutta, sanitary rules were successfully applied, and the public health in no way suffered.

25th May 1877.

No. 12.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORTS of the MADRAS MUNICIPALITY for 1874-75 and 1875-76.

1. These Reports, having been referred to the Army Sanitary Commission at the same time, may very well be discussed together, and their contents included in one Memorandum, especially as there is little in them that is new, and not much calling for remark of any kind. They form a somewhat striking contrast to a previous report of the late Mr. Gover, in which the sanitary condition of this large city was set forth with a degree of skill and care not often equalled in such inquiries, but which, up to the present time, appears to have led to little practical result.

2. Mr. Gover had shown that the subsoil of a large part of Madras was water-logged and saturated with filth, and that a fundamental condition of improved public health was sewerage and drainage for removing night-soil and freeing the ground from sewage water, together with an extended supply of pure water, and other improvements.

The evil was known, and also the general nature of the remedies, and the Reports under review will enable a judgment to be formed of the extent to which the remedies have hitherto been applied.

3. In the Report for 1875-76 the population of Madras city is given at 397,552. The deaths were 14,408, the births were 10,473, showing an excess of nearly 4,000 deaths over the births. This result is scarcely trustworthy, and must be taken as showing that the registration of deaths

is more efficiently carried out than the registration of births, although, when the sanitary condition of Madras is taken into account, there is reason to believe that the deaths registered are fewer than ought to be. The facts, as they stand, give a death-rate for 1874-75 of 36·2 per 1,000, and a birth-rate of 26·3 per 1,000.

Compared with previous years, the death-rate of 1874-75 stood as follows :—

	Deaths per 1,000.
1870-71	30·9
1871-72	33·2
1872-73	36·2
1873-74	37·4
1874-75	36·2

There is reason to believe that all these rates are too low. The one fact which may be safely deduced from them is that Madras is one of the most unhealthy of cities, and has its real sanitary work yet to do. Even the European death-rate in Madras last year was 3½ per cent. of the European population. The Mahomedans suffered most, and had a death-rate of above 4 per cent. But there is some uncertainty as to this result, for another table gives the death-rate of Europeans at 33·4 per 1,000, and of Mahomedans at 44·5 per 1,000.

4. The chief death causes were the following :—

	Deaths.
Small-pox	199
Fevers	2,418
Cholera	1,450
Dysentery	1,137
Diarrhœa	847

In 1872-73 there was one death only from cholera. In 1873-74 there were five cholera deaths. Next year there was no cholera, and this quiescence was followed, as we have seen, by the epidemic of 1875-76, during which 1,450 deaths from cholera took place.

5. The general death-rate for 1874-75, viz., 36·2 per 1,000, was very unequally distributed among the villages within municipal districts. The most unhealthy was Perambore, which had a death-rate of nearly 6½ per cent. There were 8 villages whose death-rates exceeded the average of the whole city.

These are the most important statistical facts in the latest Report, and it may be as well to state that the mortality was amply accounted for by the previous report of Mr. Gover, which also pointed out the nature of the remedies.

6. With regard to the intervening cholera, the following passage from the Report will show the measures of a temporary nature which were taken to arrest its advance on Madras from districts where it already prevailed in an epidemic form :—

“ Every precautionary measure suggested by the medical authorities to meet the advent of the epidemic and arrest its progress was adopted. To prevent its introduction from the interior, cholera sheds were erected at all stations of ingress, at the toll gates on the Poonamallee road, Mount road, Barber’s Bridge road, Erookuncherry road, Trivatore high road, and Munnar-sawmy Covil road. They were amply supplied with medicines and hospital comforts, and a staff of medical subordinates was detailed for duty at these sheds. None of them, however, were availed of, and after a time they were removed. Within town the houses attacked received the attention of the conservancy department. Carbolic acid, deodorizing powders, and sulphur fumigation were unsparingly used to disinfect them. In spite, however, of all efforts to stay the progress of the disease, it numbered 1,450 victims in 238 days, being at an average of six lives daily.”

Although cholera prevailed at the time all over the south of India, it is interesting to note the fact that the first case in Madras itself took place in Royapooram on August 7th, close to the sea-shore, and the plan of the city in the Report shows that the succeeding cases lay in a zigzag manner over the city.

The death ratios among different classes of the community were :—

Europeans	3 per 1,000.
Hindoos	3·1 ”
Native Christians	4·7 ”
Mahomedans	5·7 ”
Eur Asians	6·5 ”

Total - 3·6 per 1,000 of the population.

The experience, as a whole, leaves the cause of cholera in the same obscurity as ever. It shows that quarantine had no influence in arresting the disease, which, indeed, came not from the land side but from the sea side.

The so-called “disinfectants” were of no practical use, although there was ample time and opportunity during 238 days to have tested their powers, and all the while those deadly local conditions so well described in Mr. Gover’s report were in full activity. The facts were as complete as they would have been in a specially conducted experiment, and the results are satisfactory for the elucidation of truth, however unsatisfactory they may have been to the people who suffered.

7. It follows, from the entire experience, that a proper foundation for sanitary improvement in Madras must be laid in drainage and water-supply, without which nothing of consequence can be effected in improving the dwellings of a large part of the population.

It is satisfactory to learn that Mr. Clark, who sewered Calcutta, had been called in to prepare a scheme for draining Madras, in regard to which the following resolution had been adopted, 3rd May 1875 :—

“ His Excellency the Governor in Council cannot but accept the scheme, elaborated during four months’ continued devotion to the subject on the spot by an Engineer of Mr. Clark’s extensive practical Indian experience, as the most satisfactory solution of the problem of draining Madras that is likely to be attained.” He observes, however, that “ Mr. Clark bases the details of his proposals in a great measure on the local water-supply, and considers that their efficiency is likely to be commensurate with the development of the latter.

“ The Government, as well as the municipality, being financially and otherwise interested in its complete development, which is now retarded owing as much to want of engineering knowledge and experience as to lack of funds, it would appear desirable that arrangements should be entered into for placing both the water-supply and drainage in the hands of a competent Engineer-in-chief such as Mr. Clark.”

The latest notice on the subject is that in February last a Bill had been introduced in the Legislative Council to increase the municipal revenue.

8. Neither Report contains any account of Mr. Clark’s scheme, but we learn from the Government Proceedings that “ Mr. Clark proposes to carry off all fluid filth or house drainage, subsoil water near the surface, and excreta, by a system of main and outfall sewers of brick or laterite in mortar plastered with cement inside and laid in concrete, or of concrete blocks cast to the required shapes, and of subsidiary stoneware drain pipes laid in concrete.” Engine power will be used to raise the sewage into the outfall to the sea, if no arrangements are made for utilizing it, but to enable this to be done 1,300 yards of the outfall will be left open. By this scheme the drainage requirements of 317,479 inhabitants will be provided for, while 80,073, the population of a considerable city, will be unprovided with drainage, upon the principle apparently that it is better to spend the large sum needed in executing the works required for the more dense part of the population at first.

There is no information in the Reports as to the steps to be taken for purifying the Cooum, but it may be safely said that nothing short of keeping the sewage out of this foul estuary will meet the requirements of the case.

The fundamental wants of Madras are thus water-supply all over the part to be drained, and suitable drainage works.

9. In a Memorandum of the Commission on the Report of the Sanitary Commissioner for Madras for 1875 attention was called to the extraordinary degree of impurity shown by chemical analysis in the Red Hill water supplied to the city. In the Municipal Report for 1874-75 are given eight monthly analyses of water samples, in which similar facts are reproduced. Take for example the first analysis of 16th April 1874, which gives the following sanitary results :—

Volatile solids	-	-	-	-	9.6	grains per gallon.
Mineral ditto	-	-	-	-	16.8	”
Common salt	-	-	-	-	5.68	”
Oxygen for readily oxidizable matter in cold	-	-	-	-	.042	”
Ditto, ditto, with heat	-	-	-	-	.105	”
Free ammonia	-	-	-	-	.022	parts per million.
Albumenoid ammonia	-	-	-	-	.05	”
Nitric acid reckoned as ammonia	-	-	-	-	1.00	”

In the face of these facts it is necessary to repeat what was stated in the Memorandum referred to, viz., that a searching inquiry should be made into the reason why Madras, after spending a large sum for water, should have water of this quality in return, and that the inquiry should embrace not only the means of distribution within the city, but also the state of all the water channels, reservoirs, and collecting grounds. Such an investigation is the more necessary as the water distribution is becoming more extended year by year.

10. Notwithstanding this unfavourable state of the water, and the non-execution of drainage works, a considerable amount of surface sanitary work is being done in the way of conservancy, street cleansing, street and road repairs, laying down street surface drains, and general regulation.

All this is in the right direction, but the Report for 1875-76 states that, “ compared with the requirements of the town in the matter of drainage, the work done during the year was but a drop in the ocean.”

At present the work of removing sewage is mainly done by hand labour and carts. The Report for 1875-76 states that for this special hydraulic work, and apart from the surface cleansing, there were employed 125 carts, 376 men coolies, 53 women, and 22 boys, who removed 125,871 cart-loads of sewage matter during the year. The sanitary result of this proceeding is stated as follows :—“ Besides the 22,597 cart-loads of night-soil removed from the public latrines, an enormous quantity is taken away every day in the open rubbish carts. It may be said in fact, without exaggeration, that the whole of the night-soil from all the private houses in the urban portion of the municipality is thus removed. The privy in an ordinary Madras house is so constructed that the urine flows off by a gutter into the street drain along with the other slops of the house, and the solid deposit alone remains to be removed by the scavenger, who attends once a day or oftener for that purpose.” This proceeding accounts for the saturation of the subsoil with filth so well shown in Mr. Gover’s report already referred to, and also for a public complaint that the cleansing of the drains “ is attended with a very powerful stench ”; but

“ wherever the drains are of good construction and in good order, and can be flushed, the nuisance does not exist.”

11. The accounts do not enable the exact cost of hand sewage operations to be deduced. There are, however, two items in the accounts for 1874-76 as follows:—

	£
Conservancy, out-door	21,057
Conservancy, other than establishment	2,318
	£23,475

If this amount be divided between street cleansing and conservancy in proportion to the staffs employed on each, about two thirds will be reckoned for conservancy, or 15,600% in round numbers.

This, though by no means so liberal an amount as is allotted for hand cleansing in Bombay, would still represent a sum of 312,000% if capitalized at 5 per cent., and if to this were added the capital representing the annual amount spent on house scavengers, there would be a very considerable amount to spend on drainage and sewerage work proper, and the inhabitants would have little to complain of in the way of rates, besides getting rid of the present unenviable repute of their city.

12. The Reports contain accounts of vaccination work, but this is a very small matter compared with the general sanitary requirements of Madras, and it may be dismissed with the following remarks from a report on the subject made in 1872 by Colonel Ritherdon, which was adopted by Mr. V. Kristnama Chariar in his inspection report of 8th February 1876:—

“ Vaccination, though highly important, is not the most crying want of Madras. Its needs are many, its means are limited. We are compelled to stint everything in order to be able to do something for many of these great necessities. . . . For every death by small-pox, fever carries off seven, dysentery three, diarrhoea takes three more, cholera nearly two. These are our greatest evils. They are to be met by drains. Drainage is tenfold more important than anything else, and it is my duty to urge that this should employ our spare cash, should demand our every effort. Much has been done to fight against small-pox in the remodelling of the parcheries in addition to vaccination.”

Lastly. The result of our examination of these two years' Municipal Reports, so far as concerns the public health of Madras, is that the drainage works should be carried out immediately, and that steps should be at once taken to purify the Red Hill water-supply. No doubt other sanitary improvements are required; but these mentioned above admit of no delay.

28th May 1877.

No. 13.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the BOMBAY MUNICIPALITY for 1875.

1. It may be a not unsuitable preface to the remarks on this Report to quote the following passage from the address of the Municipal Corporation of Bombay presented to His Royal Highness the Prince of Wales on his landing in the capital of Western India. Alluding to the early history of the city, the Municipal Commissioners state as follows:—

“ From a barren rock, whose only wealth consisted in cocoa-nuts and dried fish, whose scanty population of 10,000 souls paid a total revenue to the State of not more than 6,000% a year, whose trade was of less value than that of Tanna and Bassein, and whose climate was so deadly to Europeans that two monsoons were said to be the life of a man, she has blossomed into a fair and wholesome city, with a population which makes her rank next to London among the cities of the British Empire, with a municipal revenue amounting to 300,000% a year, and with a foreign commerce worth forty-five millions, and yielding in customs duties to the Imperial treasury three millions a year. All this material prosperity she owes to the strong and wise Government which has secured her in the enjoyment of peace and order, of equality before the law, of religious liberty, and of freedom of trade . . . under the shadow of the British flag.”

2. Among not the least of these enumerated advantages must be classed the public health improvements carried out by the local authorities and their officers, which have already done so much to save Bombay from periodical visitations of severe epidemics, although it may be freely admitted that much yet remains to be accomplished in this direction.

3. Mr. Pedder's Report for the present year states briefly the chief improvements carried out or completed during the year, and refers for details to accompanying reports, of which that of Mr. Weir, the Officer of Health, ranks first in importance in relation to public health.

Among improvements enumerated by Mr. Pedder are the following.

House building proceeds at the rate of about 300 new houses a year.

The new markets at Mazagon were nearly finished during the year, and would be opened immediately.

Some attempt has been made to diminish the abominable nuisance and risk to health occasioned by the discharge of night-soil into Bombay harbour. The depôt has been improved, the discharge pipe has been relaid, and the night-soil accumulated in the depôt is washed out to

below low water by means of salt water pumped up from the harbour. Mr. Pedder says "the improvement is immense, and greater than was anticipated." But the whole affair should be put an end to as speedily as possible by the sewerage of Bombay.

The public gardens have been improved, and new burial grounds for Mahomedans and low-caste Hindoos were being provided. In 58 localities streets had been widened.

The quantity of sewage which finds access to the present drainage system is increasing.

Plans for conducting additional water from the Tulsi reservoir direct to Bombay have been finally settled, and hopes are entertained that the water will reach the city in 1878.

Reforms and reorganizations of market and slaughter-house administration have been satisfactorily carried out.

4. The following abstract given by Mr. Pedder shows the work done for conservancy purposes during the last two years :—

		1874.	1875.
Covered drains opened and cleaned	- Miles	162	166
Garbage collected and removed	- Tons	114,891	118,407
Night-soil collected and removed	- „	61,875	65,915
Houses visited and disinfected after infectious cases	- No.	6,546	9,069
Notices served on offenders	- „	4,709	4,924
Summonses ditto ditto	- „	2,344	3,342

These proceedings no doubt show great and increasing activity in public health administration. But reference must again be made to the fact that under a proper drainage system two at least of the items in the list would have been unnecessary.

A moment's consideration will show the waste and inefficiency involved in the present system of drain cleaning. In the accounts the cost of this operation is entered, in round numbers, at 7,457*l.* (Rs. 74,579. 2. 11), representing a capital at five per cent. of 149,140*l.*, which would form a not inconsiderable instalment of the cost of an efficient self-cleansing drainage system.

Again, the cost of removing and disposing of the night-soil by the present abominable process is as follows :—

	R.	A.	P.
Collection	168,732	5	3
Removal	49,252	12	4

or, in round numbers, 21,798*l.*; to which ought to be added the cost of the new night-soil pipe, 1,223*l.*, incurred the same year. The total outlay was 30,478*l.* for work which could have been infinitely better done by a proper drainage system,—a sum which, if capitalized at five per cent. would have enabled 609,560*l.* to be borrowed for drainage purposes.

5. It is necessary to press this view of the financial question once more, because it may be supposed that, after having laid down the new night-soil pipe into the harbour, the abominations of the entire halalcore system may be indefinitely prolonged.

The fact that the municipality, with a revenue of 300,000*l.* a year, can afford to spend so large an annual sum on mere hand labour and its appliances is enough to show that there is no financial reason for any delay whatever in carrying out the sewerage and drainage of the city.

6. The amount of labour required under the present system is stated as follows by the Officer of Health :—

	European Superintendents.	Native Superintendents.	Carts.	Halalcores.	Begarics.
Scavenging and drain cleaning	6	78	266	—	1,309
Night-soil removal	1	5	66	40	8
Night-soil collection	—	46	19	988	—
Total	7	129	341	1,028	1,317

These figures represent the average daily working strength of the establishments. The scavenging, or street cleaning, would, of course, have to be provided for under any system, but, deducting this branch, it may be safely said that all the rest ought to disappear from the municipal accounts, and the general oversight now exercised by the Officer of Health would cease to be necessary. He has nothing to do with superintending scavengers and night-men. His functions relate to other matters. It is not meant to undervalue the work done, even in its present form, for without it the public health would rapidly deteriorate. But it must be a costly and by no means efficient method of doing drainage and sewerage work when it has to be carried out by "2,481 men and women," many of whom have to be mulcted of fines out of their starvation pay by the Officer of Health in order to secure efficiency. The fines last year amounted to 407*l.* Any one interested in learning the difficulties of administering a sanitary system founded on erroneous principles may find instructive facts in Mr. Weir's report, and they will sympathize with him in his opinion when he says :—"If the milch cattle stables were removed from the city, "and if the night-soil carts ceased to pass through our streets, and sweeper's gullies no longer existed, how different would this city appear! How much sweeter would it be, and what a different appearance would its streets present!"

7. The community of Bombay must bear with these risks and nuisances until the city is sewered and drained, but the municipality will evidently have to see to it that after the sewerage is carried out the halalcore abominations are not allowed to continue.

The Officer of Health informs us that the scheme of sewerage, at present popular, provides as follows:—"Night-soil to be removed, as now, from the privies by hand, but, instead of the "night-soil being carried in carts to the Carnac Bunder, it is to be emptied into the sewers at "different central collecting depôts."

It may safely be stated that, if such a scheme be carried out, the sanitary condition of the city will have undergone no corresponding improvement for the vast outlay of keeping up two systems, namely, a sewerage system and a halalcore system. Whatever is done in the way of sewerage, it is a *sine quâ non* that halalcores must cease.

8. So far as can be learned from the reports of past years, as well as from the present one, there have been exaggerated theoretical views put forward as to the danger of house drainage from sewer gas. But every engineer knows how to prevent such occurrences, and it is doubtful if it would occur to any one who knows the subject to provide against the danger by laying down a costly system of sewers, and then to collect night-soil from houses by hand labour to pour into them.

The Army Sanitary Commission has long ago pointed out that in Indian climates provision must be made for freeing the surface of rainfall otherwise than by passing it into underground sewers, and that sewerage, properly so called, must be restricted to removing house sewage. The domestic arrangements for privies, water-closets, &c., must necessarily differ from those at home, which are applicable to people of very different habits than those of the population of India, but there is no excuse in this diversity for keeping up any remnant of the halalcore system for any house in Bombay which has been properly drained. What is apparently required in this case is the aid of a good sanitary engineer, who has had practical experience in dealing with such questions.

9. There are some remarks in the Officer of Health's Report on the present state of the Bombay water-supply which require notice.

It appears that Vehar water varies considerably in quality, and the Officer of Health is of opinion that the amount of vegetable impurity in the water will go on increasing until it becomes injurious to the public health. The Army Sanitary Commission has dealt with this question long ago, and pointed out how the amount may be lessened by proper attention to the gathering ground, and by filtering the supply, which has not yet been done. Not only so, but the water after reaching Bombay is allowed to run into "dipping wells," and is thus rendered impure. Another risk arises from the state of the subsoil through which the water mains have to pass. The Officer of Health says that the great water mains "run through sewers," and that "the water pipes in a portion of the city lie bathed in ordure day and night," and that accidental pollution from this cause has only been prevented by care of the Executive Engineer.

10. While fully acknowledging the great work which has already been done for improving the health of Bombay, it is necessary that pointed notice should be directed to matters capable of remedy, which under less careful management might lead to deteriorated public health.

That this is no improbable future consequence may be learned from the comparative death-rates in the following abstract given by Mr. Weir:—

		Death-rates per 1,000.				
		1871.	1872.	1873.	1874.	1875.
Cholera	- - - -	·41	·29	·14	·03	1·31
Small-pox	- - - -	1·43	2·88	1·11	·40	·38
Measles	- - - -	·43	·61	·20	·54	2·31
All other causes	- - - -	22·66	25·69	22·86	23·07	25·07
Total	- - - -	24·93	29·47	24·31	24·04	29·07

This abstract does not include the fever mortality separately, which is given under the head of "all other causes." The actual fever death-rate was 8·14 per 1,000.

A death rate of 29 per 1,000 in spite of all this sanitary work shows how easily the rate might rise from any relaxation of effort, and also the need of completing the water-supply and sewerage of the city as speedily as possible. As has been said before, "the fetching and carrying" system has shown all that it can do for Bombay.

11. Exclusive of still-born, the total registered deaths in 1875 were 18,734 against 15,496 during the preceding year.

There were 847 deaths from cholera against an annual average of 256 for the preceding five years.

Mr. Weir gives an account of the epidemic in some detail, and, in dealing with its predisposing condition, he appears to consider that poverty and its concomitant, weakened stamina, had much to do with the distribution of the disease. He could find no evidence in support of cholera water poison having been a cause of cholera. Overcrowding and bad ventilation were predisposing conditions. Different classes of the population, arranged according to their physical conditions, beginning with the poorest, experienced the following proportionate cholera mortality:—

	Death-rate per 1,000.
Mahrattas	- - - - 3·62
Mussulmans	- - - - ·74
Bhundarees	- - - - 2·40
Native Christians	- - - - 3·30
Kolees	- - - - 2·07
Mahars	- - - - 2·20

There were only four deaths from cholera "amongst that degraded race who from their cradle " live in the odour of ordure, and whose lives are spent in handling it." This fact is cited as refuting one of the common theories about cholera.

Mr. Weir's opinion that the causes of the outbreak "lay not in the soil but in the people" may be true as regards the surface geology, but assuredly there are facts in his report which leave grave doubts as to whether the sanitary relations of the soil ought to be included in this view.

12. Besides the general sanitary work, the following precautions were taken in affected houses.

The floors were dug up and sprinkled with carbolic acid powder, the walls lime-washed, and where necessary the roofs were taken off the houses and the people turned out. All drains were cleaned and disinfected, and impure wells were shut up by placing a guard over them. All these were excellent precautions.

The result of the experience is summed up as follows:—"The lesson to be learned from the " outbreak is plain. It teaches us that we need not go from Bombay to search for the causes of " the epidemic, that they are in our midst, and that they are to be found in a teeming poverty " stricken population, huddled together in overcrowded, ill-ventilated dwellings; and that, to " eradicate cholera, the masses must have more food and better dwellings, and a higher standard " of living must be adopted. . . . If sanitary improvements and an increasing and plentiful " supply of food advance together, we may look hopefully forward to the time when epidemic " diseases shall be no more in Bombay."

14. So far as this Commission is concerned, Mr. Weir's Report contains quite enough to justify an opinion that the present sanitary state of the city is very far from being such as to warrant expectation of immunity from epidemics.

14. Small-pox occasioned 248 deaths in 1875, a small mortality when compared with the habits of the people in dealing with this pestilence. Mr. Weir informs us that in three fourths of the houses in Bombay where there are small-pox cases "you will find the sick stretched on the floors " or on the beds, and gathered around them the other members of the family, who sit down " beside the sick, and if they happen to be children they take them up and place them on their " laps, fondle them, handle their clothes without the slightest hesitation or fear;" and as in the cold season there is overcrowding, and little ventilation, we have not far to seek for the reasons of those periodical aggravations of the disease which otherwise it is not easy to account for.

The people do not believe in the infectious nature of small-pox, and they regard the disease " as one of the ways by which Providence dispenses its choicest favours." It would be a subject of great interest to determine, by special inquiry, the exact amount of influence exercised by the popular manner of dealing with small-pox patients in these Bombay houses on the spread of the disease within the same house and among members of the same family.

These facts represent the small-pox problem with which the sanitary authorities have to deal, and apparently the difficulties can only be met by persuasion. Vaccination requires further extension, and if the people consider that small-pox has something divine about it, they will scarcely throw the same shield over foul air and crowding. The remedy for all this must be looked for in kindly advice, and the spread of intelligence.

15. Allusion has already been made to the fever mortality of 1875, which is arranged as follows:—

Enteric fever	39 deaths.
Simple continued fever	56 "
Ague	196 "
Remittent fever	4,953 "

The last item in this list suggests inquiry as to the nature of the fevers classed as remittents, and their complications.

Phthisis is credited with 2,364 deaths; diarrhoea and dysentery with 2,265 deaths; respiratory diseases with 2,562 deaths; all showing an increase over preceding years.

A list of district death-rates shows that the mortality differs greatly in different districts of Bombay. In 1875 the highest total rate in 30 districts was 4 per cent. in Kamatheepoora, and the lowest 1 per 1,000 at Middle Colaba.

16. Mr. Weir's Report is concluded by full tables giving an analysis of the annual death statistics, and altogether it is a useful contribution to the sanitary history of the capital of Western India, made by an officer who appears to be a worthy successor to Mr. Hewlett.

But the future permanent improvement of the city is really in the hands of the municipality, on the results of whose action in regard to water-supply, drainage, better dwellings, and generally improved sanitary condition of the city it will depend whether in time to come the somewhat flattering claim to greatly improved sanitary condition made on its behalf in the passage of their address prefixed to these remarks is to be sustained.

23rd May 1877.

(APPENDIX to Memorandum, by Mr. Rawlinson.)

The main sewerage of Bombay has been reported upon so many times that one approaches the question in despair. The cost of cleansing is, however, so great, and the abiding filth is notwithstanding so great, that it is to be hoped this state of things will ultimately compel proper works of main sewerage and house draining to be undertaken. Opening and cleansing covered drains is an item which ought not to appear in the accounts; with such a volume of water as there

is at command, every drain ought to be constructed so as to be capable of being cleansed by water.

As previously explained, it will be a great mistake to sewer Bombay rigidly on principles applicable to climates of moderate rainfall, because of the monsoon rains which deluge the surface, and which no practicable sewers could accommodate.

Any sewers in Bombay must therefore exclude storm water, which must continue to go off over the surface as at present.

With respect to house drains. Any elaborate system of house drain must be avoided, and the simplest conduit be laid, care being taken to so narrow the inlets as to prevent choking by use,—a 3-inch inlet to a 4-inch pipe.

Neither soil-pans nor waterclosets set up on the English plan should be attempted to be introduced in the poorer quarters, as they would not be suitable to the habits and prejudices of the Natives, who will not use a seat, but will stand upon it; this being the case, the privy should be a perforated stone raised, say, six inches above the floor, with the soil-pan beneath. The floor to be constructed of stone or of concrete, that the place may be washed. A single syphon trap as in the soil-pan, which can be flushed out by hand or by hose when necessary, will be all that is required.

The Turkish privies are arranged as above described, but without the syphon trap, and without the drain pipe and small capacity sewers. There are on the Continent, at the railway stations in Austria, latrine arrangements as described. All such latrines or closets must be hand flushed, the water tap being outside. A public scavenger would be required to flush and cleanse neglected and abused soil-pan closets, but this duty would be comparatively easy if only excreta and waste water are discharged down the closets. Wilful choking with solids, or in any way, may be the subject of a fine.

Drains and sewers laid in right lines, with manholes at short intervals, always at junctions, will give facilities for examination and for flushing. The sewers and drains should be so arranged that a choked drain or a choked sewer could be effectively cleansed without pulling up one yard of drain or sewer for cleansing purposes.

The system of sewers and drains should be on an uniform principle,—a lesser sewer or drain joining a larger, and the lesser always joining with its invert above or level with the water line of the larger sewer, or say never joining below the central line of the diameter.

Assume a main sewer, 4 feet diameter. A branch sewer would join 2 feet above the invert, and a 12-inch sewer would join the branch sewer one foot above its invert; and, with pipe sewers, a 9-inch would join a 12-inch, a 6-inch a 9, and a 4-inch join a 6-inch. One purpose of this arrangement being to transmit sewage from the tributaries of 4 inches diameter through branches increasing in diameter to the mains. The fall, or gradient, of a sewer or drain is not so much consequence as is the truth, soundness, and gradation of the drains and sewers. The drains must be truly laid in line and gradient, and be jointed and bedded in concrete, so that water flushing shall not burst the joints, nor the sewage leak at the joints, this truth and tightness being of the utmost importance to prevent leakage of fluids which would leave any solids to accumulate, and so obstruct the drain and in time choke it. Clay for jointing sewer or drain pipes should never be used in India, as it will crack, and probably dry to dust in some cases.

The excreta of human beings are only about the one hundredth part of the sewage, where there is an available water-supply of 25 gallons per head per day, and this is chiefly urine, the solid being only one sixteen hundredth—1 to 1,600. It is the accumulated excreta which cause the greatest nuisance, which, removed in detail, are so insignificant, and, with proper means, as suggested, may so easily be made day by day to pass rapidly away.

A soil-pan should not be within the dwelling house, but may be immediately outside. In India the Natives may not require a privy structure over the soil-pan, but merely a light fence or screen round it, which will be cheaper than a building, as shown on the sketch.

The ashes and other refuse must have a separate place provided for storage, but scavenging at intervals not longer than a week will remove all refuse before it becomes a nuisance.

Before ordering a general construction of house drains and soil-pans, arrangements as sketched, as trial samples, should be put up.

No. 14.

MEMORANDUM of the ARMY SANITARY COMMISSION on the HEALTH RETURNS of BRITISH TROOPS in BOMBAY for 1875.

These reports are chiefly of a departmental character, and do not call for remark. But there are several matters in the "observations" of Surgeon-General Inglis, transmitted with the statistical reports, to which the Army Sanitary Commission are desirous that attention should be directed. These are included in the following paragraphs.

1. The transport service from India to England in 1875-76 was performed by the transport ships "Euphrates," "Malabar," "Jumna," and "Crocodile," two voyages by each ship; one voyage each of Her Majesty's ships "Orontes" and "Himalaya," and a few other invalids were sent home in the Peninsular and Oriental Company's steam ship "Deccan."

The following were the numbers embarked in India:—

Officers	-	-	-	398
Ladies	-	-	-	121
Children	-	-	-	174
Men in health	-	-	-	4,690
Women, ditto	-	-	-	606
Children, ditto	-	-	-	2,001

The invalids embarked were:—

Men	-	-	-	-	2,464
Women	-	-	-	-	334
Children	-	-	-	-	805
Insanes (including 1 woman)	-	-	-	-	63

Besides these, there were 120 ignominy men and convicts sent home.

2. In a Memorandum of the Commission on the Report of the Sanitary Commissioner with the Government of India, printed in the 8th volume of the India Office Sanitary Reports, attention was called to the large proportion of invalids embarked in India during the cold season; assuming this season to last from the 1st October to the last day of March, nearly 95 per cent. of the invalids embarked in five years had done so during the cold season, thereby losing the advantage of the cold season in improving their health, while at the same time being exposed to risk from sudden change to the colder climate of England. There was a considerable improvement in this matter during the year 1875-76, for out of the total invalids, amounting to 2,464, the number embarked after the end of March was 1,048, or about 45½ per cent. of the whole number.

3. The number of troops embarked in the United Kingdom and arrived at Bombay during the trooping season 1875-76 in eight voyages of the troop ships already mentioned were:—

Officers	-	547	Men	-	7,581
Ladies	-	100	Women	-	742
Children	-	79	Children	-	953

together with 28 female servants.

Between the 1st November and the 17th December (probably arriving at their stations before the hot weather) there were disembarked at Bombay 272 Officers and 3,916 men, or above half the number; but the remainder, 275 Officers and 3,665 men, were disembarked on the 7th and 23rd February and on the 8th and 24th March, thus leaving England in the winter and early spring, and arriving probably at their stations in the Indian summer.

The great importance of the time of arrival at stations in its effect on death and inefficiency rates has been discussed by the Commission in their Memorandum on the results of late arrival to the 11th Brigade, Royal Artillery, during the year 1874.

The following were the casualties during the voyages from England to Bombay.

The only deaths out of 7,581 men were 2 on board the "Jumna," with 1,014 troops on board. equal to an annual death-rate on the whole number embarked of a little over 3 per 1,000. Unfortunately, the Assistant Quartermaster-General's return at Bombay does not specify the causes of death. There were no deaths among the 742 women embarked.

Among 953 children there were the following cases of sickness and death:—

	Strength.	Deaths.	
"Euphrates," 1st voyage	- 98	- 3	(of diseases caused by prostration; scarlet fever).
"Malabar," 1st voyage	- 157	- 5	(1 suffocation, 2 diarrhœa, 1 mesenteric disease, 1 meningitis).
"Jumna," 1st voyage	- 126	- 4	(out of 34 cases of measles).
"Malabar," 2nd voyage	- 140	- 2	(convulsions and measles).

All the other voyages were healthy.

The 14 children's deaths give an annual death-rate of about 17½ per cent., but apparently some of the fatal cases were due to the state of the children when embarked, and cannot be charged against the voyages.

In the case of the "Euphrates," the Medical Officer took the excellent precaution of landing one affected family at Gibraltar and other two at Suez.

The "automatic" ventilator, which depends for its action on the rolling of the ship, was in use on board the "Malabar," and appears to have been effective as long as the rolling continued, but the Medical Officer in charge says: "When we were going on an even keel I fancy its results were *nil*." That is, the great merit of the system is that, when the weather is very rough, ports closed and hatches down, in short, all natural ventilation cut off, this contrivance is at its best. But on board vessels having steam machinery there ought to be no difficulty in keeping air pure in every corner of the ship and at all times.

4. Unfortunately, the sanitary condition of British troops within the Bombay Presidency was by no means so good as was the health of troops on the passage out. This will be seen from the following data taken from the Surgeon-General's observations:—

Average strength	-	-	-	10,342
Admissions to hospital	-	-	-	14,188
All deaths	-	-	-	214
Invalided	-	-	-	628
Average daily sick	-	-	-	584

The death-rate was no less than 20·69 per 1,000, higher than in any year during the preceding 10 years, except 1865, when the rate was 36·34 per 1,000, and 1869, when it was 21·54 per 1,000. Including these exceptionally high death-rates, the average of the 10 years was 17·64 per 1,000, or 3 per 1,000 lower than in 1875. These rates may be compared with the death-rate among Officers in the Bombay Command during 1875, which was 19·28 per 1,000. The average constantly sick, 56·47 per 1,000, was not unusually high. The admission-rate was 1,372 per 1,000. The invaliding rate was no less than 60·72 per 1,000, but the Surgeon-General states that the increase is due to a change in the invaliding periods, whereby the number invalided, but not the number embarked, is shown. Any way, there can be no doubt that 1875 was what is called an unhealthy year for the Bombay Army.

5. The deaths among 9,777 men on active service at 22 stations amounted to 204, a little over 20 per 1,000. The death-rates at five of these stations gave the following results :—

	Strength.	Deaths.	Ratio per 1,000.
Baroda - - - -	357	20	56·02
Kurrachee - - - -	755	17	22·52
Poona - - - -	1,384	28	20·23
Mhow - - - -	1,256	25	19·90
Neemuch - - - -	436	25	57·57
Total - - - -	4,188	115	27·4

The remaining 17 stations, with an aggregate strength of 4,569, yielded 89 deaths, = a death-rate of 19·3 per 1,000, or 8 per 1,000 fewer.

These averages are both very high, especially for Bombay, and the next thing is to learn what was the cause of this.

6. The year 1875 was a *cholera* epidemic year, and this disease gave rise to the following mortality in the Bombay Army :—

	Cases.	Deaths.	Ratio per 1,000 Strength at Stations.
Men - - - -	83	54	5·5
Women - - - -	8	5	4·3
Children - - - -	13	7	3·

Had there been no cholera, the station death-rate among men would have been 14½ per 1,000. The excess of mortality in 1875 was thus due mostly to epidemic cholera, as is clearly shown by the following abstract :—

	Cases.	Deaths.	Per cent. of total Deaths.
Cholera - - - -	83	54	25·23
Enteric fever - - - -	42	18	14·49
Continued ditto - - - -	542	4	
Ague - - - -	3,919	1	
Remittent - - - -	321	8	8·88
Hepatitis and abscess of liver - - - -	388	19	
Phthisis - - - -	—	13	6·07
Sunstroke and apoplexy - - - -	61	23	10·28
Dysentery - - - -	—	9	6·08
Diarrhœa - - - -	—	4	

One fourth of all the deaths during the year were due to cholera. The enteric fever mortality was one third of the mortality from cholera, and this proportion was exceeded by the death-rate from diseases more or less connected with intemperate habits, viz., hepatic and cerebral diseases, which together occasioned upwards of 19 per cent. of all the deaths of the year.

There is not much information in the Report regarding removable local conditions allied to the prevalence of the more fatal diseases in this table, but there is enough to show a high probability that such conditions exist.

Cholera showed the following mortality among men at the stations where it appeared :—

	Cases.	Deaths.	Ratio per 1,000 Strength.
Neemuch - - - -	26	20	46·
Poona - - - -	17	10	7·2
Baroda - - - -	15	9	25·2
Mhow - - - -	10	6	4·7
Kirkee - - - -	6	3	6·5
Khandala - - - -	4	2	*250·
Ahmedabad - - - -	2	1	4·
Ahmednuggur - - - -	1	1	2·4
Nusseerabad - - - -	1	1	1·7
Delhi - - - -	1	1	—
First nine Stations, deducting } Delhi - - - -	83	54	10·28

* Only 8 men, 2 died ; they were sent there for quarantine.

7. These various death-rates prove that the intensity of cholera varied much at different stations, or that its local favouring conditions varied.

Out of 22 stations 13 escaped, and in those affected the death-rates varied between 1·7 and 46 per 1,000 strength.

Beginning with Neemuch, we find it stated that the F Battalion, 9th Brigade, Royal Artillery, 160 strong, had 23 cases and 18 deaths from cholera, a death-rate of about 11 per cent. of the strength. The battery was moved into camp 11 days after the disease appeared, and 3 cases had proved fatal. Two deaths took place in camp, and another move was made. There were then two fatal cases, and the camp was shifted the third time. This change was followed by eight deaths, and the camp had to be abandoned.

The question naturally suggests itself whether the battery should not have been moved as soon as cholera appeared in the station or vicinity; and the facts appear to show that the move after 11 days' delay was useless, if not injurious.

The practice at Mhow, where the disease broke out in the same locality as it did in 1872, was to vacate the buildings whenever a case occurred. In this way about half the regiment (the 68th) was in camp, and no cases occurred there. The disease was very malignant in character, and occasioned six deaths out of a strength of 477 men, = $12\frac{1}{2}$ per 1,000.

The experience appears to be in favour of immediate removal of troops from affected localities, and taking care that camping grounds are also at a distance from places where cholera prevails.

No account is given of the sanitary condition of affected stations.

8. The next most important death cause, viz., *enteric fever*, showed the following mortality at affected stations:—

Enteric Fever Deaths.	
Kurrachee	7
Poona	3
Belgaum	2
Tarraghur	2
Mhow	1
Deesa	1
Ahmedabad	1
Baroda	1
Total	18

The station at which the largest number of cases took place was Kurrachee. There were in all 11 cases, 5 in D battery, 4th Brigade, Royal Artillery, and 6 cases in the 56th Regiment.

The Medical Officer of the Royal Artillery states that the "enteric cases were doubtless due to some local cause which I have been unable to ascertain, there being nothing in the sanitary condition of the lines or vicinity to account for its origin."

Unless radical improvements have been carried out at this station since last year, this view of the Medical Officer is not in accordance with statements made in the Report and Health Returns for British troops in Bombay for 1874. It was therein stated, as accounting in some measure for seven cases of enteric fever at Kurrachee, that there was fœcal contamination of the air by a Native latrine and foul mud flats to windward.

The Medical Officer of the 56th Regiment gives a similar opinion as to the absence of apparent local causes. But he also makes an important statement on the development of enteric fever which has been received from other parts of India, and deserves notice. He says: "The six cases were admitted under the head of ague. The intermissions were well marked. In the course of a few days, generally about five or six, the intermissions ceased, the fever becoming continuous, with high temperature and diarrhœa; as the disease progressed, the symptoms of enteric fever were well marked, but in none of the cases were spots observed, although carefully watched for. Of the six cases four recovered and two died." Similar facts have been observed in this country. In one such case where fever cases occurred at a station they were, when admitted to hospital, of simple continued type, and become typhoid afterwards. But it was found in this instance that the air outside which supplied ventilation to the wards was polluted by emanations from a large sewage tank and pigstyes to windward. It may be suggested whether in such cases the surroundings of the hospital may not be to blame also in India.

9. *Intermittent Fever*.—This important inefficiency cause is subject to considerable variations in its incidence in particular years, and hence the experience of 1875 only represents the amount of fever for that year.

The lowest percentage of attacks was 9·09 at Ahmednuggur, but in 1874 it was 25 per cent. there. In like manner Mount Aboo had 44½ per cent. of its strength attacked in 1875, and 85 per cent. during the previous year.

The highest ague rate of 1875 was 105·86 per cent. at Bombay, more than the whole strength. But during 1874 the percentage was about 62 only. The other stations can be arranged in series between the extremes. All were affected, but, on the whole, the amount of intermittent fever is diminishing, as appears from the following admission-rates per 1,000 from this disease:—

Ratios per 1,000 Strength.	
1870	542·67
1871	518·36
1872	483·07
1873	410·94
1874	327·28
1875	378·90

The universal prevalence of these malarial fevers can be considered in no other light than as evidence of local malaria existing within or in the vicinity of stations, and as pointing to the urgent necessity for local investigation and remedy.

10. There is not much information in these papers on the subject of local causes connected with the appearance of these diseases, but the following points may be noted.

Colaba.—Infantry barracks too close together, not raised on sufficiently high plinths, and in some there are objectionable mud floors.

Baroda.—Barracks old, and defective in general construction.

Ghorpoorie.—Barracks having many defects, Government has ordered an inquiry, with a view to improvements.

Aden.—Guard-room accommodation defective.

Nusseerabad.—Surface drainage of Artillery lines "most defective."

Poona.—Surface drainage at Ghorpoorie generally unsatisfactory. This matter is under consideration.

Colaba.—Surface drainage "very much required;" some improvements being made.

11. *Ventilation*.—On the whole satisfactory, but at Ghorpoorie, Poona, and Colaba it is impeded by the bungalows being too close together.

12. *Warming*.—Cold very severe in Sind for two or three months in the year. Means of warming desiderated by Medical Officers.

13. *Flooring*.—At some stations (as Colaba, Ghizree, and Kirkee) there are still objectionable mud or earthen floors.

14. *Abution and Bath Accommodation*.—Requires improvement at Ghizree, Deesa, and the old Infantry barracks at Mhow (this last is to be remedied).

15. *Latrines*.—Dry earth is universally adopted, except at two or three stations. But suitable mechanical arrangements, which are part of the system, are not supplied, and the men neglect to use the earth. Surely this defect should be remedied.

16. *Water-supply*.—Stated to be "generally good and abundant." This fact apparently requires special chemical verification at stations which have suffered so much from cholera.

At Kurrachee a large filter has been provided, but the filter bed had been in use for above 12 months without renewal, and the impurities have "converted the sand and charcoal into a solid mass, through which the water will not penetrate; the filter has ceased to act, and is at the present moment quite useless." The old chatties had been called into use. These facts require only one comment, viz., that unfortunately no sanitary appliance is for ever self-acting. To ensure their continuous action, by inspection or otherwise, is an obviously essential part of the apparatus.

Nusseerabad had not yet received its water-supply.

17. *Hospital Accommodation: Colaba*.—The position of the hospital is reported "bad, being on low ground, and shut in by new Artillery barracks."

Ahmedabad.—The hospital had been destroyed by a flood, and was not yet replaced.

Wanowrie (Poona).—Site, plan, and surroundings of hospital reported objectionable.

Deolali.—Hospital accommodation quite inadequate during the trooping season.

Mhow.—"A female hospital is much wanted."

18. In connection with local sanitary defects, the following experience may be given. *D/C, Royal Horse Artillery*.—This battery left Kirkee, and was stationed in camp at Bombay at the arrival of His Royal Highness the Prince of Wales. The battery was very unhealthy. "The increase of admissions was chiefly from fevers, diarrhoea, dysentery, and hepatitis." The increase, especially in the three latter diseases, is attributed by the Medical Officer to the following cause:—"The ground on which the tents were pitched is said to have been extremely damp, having only a short time previously been covered with monsoon water. The heat in the tents, too, was great, 88° to 90° F., and when the battery returned to Kirkee, the change from the low-lying, damp encampment and moist atmosphere of Bombay to the elevated position and dry climate of the Deccan seems to have developed into activity the germs of disease sown in Bombay."

If going and returning from Bombay be a necessary portion of military duty on occasion, it is by no means evident that the other part of the proceedings described by the Medical Officer need have taken place.

The experience is useful as showing the persistent effects of badly chosen ground.

The *27th Fusiliers* suffered considerably from sickness at Poona, the persistent character of which led to a committee of inquiry into the state of Wanowrie barracks, which it is hoped will lead to the necessary improvements being carried out.

19. *Venereal Diseases*.—There are now lock hospitals at 12 stations of British troops in Bombay Presidency, and 10 stations are without them. The only statistical data in the present papers are those relating to the amount of disease among the troops, so that there are no means (on account of the departmental character of the returns) of testing the probable utility of these establishments by showing the nature and number of cases treated in them. There is, however, a table showing the amount of disease among troops for the last 10 years, as follows:—

Years.	Ratio of Admissions per 1,000.	Years.	Ratio of Admissions per 1,000.
1866 -	206.6	1871 -	160.0
1867 -	209.6	1872 -	148.8
1868 -	197.9	1873 -	179.4
1869 -	157.2	1874 -	164.0
1870 -	184.0	1875 -	160.5

These figures for the later years, during which lock hospitals have been in use, apparently show some reduction in ratios, but not much.

The admissions from all classes of venereal affections in 1875 were for protected stations 147 per 1,000, and for unprotected stations 199 per 1,000, showing an apparently more favourable result than in other parts of India.

20. *Women and Children.*—It will be seen from the following abstracts that the death-rates in soldiers families have been diminishing:—

Deaths per 1,000 strength.

	Years.	Women.	Children.
1869	- - -	41·12	140·72
1870	- - -	26·39	78·09
1871	- - -	18·04	68·55
1872	- - -	33·08	94·71
1873	- - -	15·90	50·91
1874	- - -	18·53	58·80
1875	- - -	18·03	76·73

The chief death causes in 1875 among women were cholera and fever, and among children, dysentery, diarrhoea, convulsions and teething, which occasioned 56 per cent. of the mortality.

21. *Sanitary Progress.*—A statement is appended to this Report, showing the action taken in the Quartermaster-General's Department to remedy the defects pointed out in it, from which it appears that several defects have been already remedied, and others of a more extensive character are under consideration.

There is also a return appended showing the number and description of new barracks, hospitals, &c., taken into occupation by British troops in 1875. This return comprises the following items:—

1. A permanent contagious diseases hospital at Mhow.
2. A permanent block of family quarters at Neemuch.
3. A similar block at Tarragurh.
4. Six single story barracks (semi-permanent) in the Artillery lines, Colaba.
5. Three temporary female wards, Bombay.
6. Three new upper storied barracks at Belgaum.
7. New barracks at Purandthar.

In conclusion, reference may be made to the preceding paragraphs to show the general results to health of the present condition of the stations. But the departmental character of the Surgeon-General's remarks have precluded him from entering into local details. Attention may nevertheless be called to the experience derived from cholera, enteric fever, and ague in 1875, as showing the high probability of the presence of local disease causes productive of malaria, atmospheric impurity, and water pollution at some stations. An unhealthy year is mainly due to the reaction of atmospheric causes on removable local conditions, and it is not satisfactory to find deterioration of health marked by higher death-rates and increased invaliding after so much has been done in the way of improvement. At all events, some inquiry into the subject appears to be called for.

5th June 1877.

No. 15.

MEMORANDUM of the ARMY SANITARY COMMISSION on the MEDICAL and SANITARY REPORT of the NATIVE ARMY of BENGAL for 1875.

This Report gives a very full and interesting account of the medical and sanitary history of the Bengal Native Army for 1875. It contains much detail of a purely departmental character, not requiring special remark by the Army Sanitary Commission, except in a few cases where practical facts of importance are given by Medical Officers to which attention may be called with advantage.

It is proposed to confine the following remarks to points of this class, and to the general results of the year's experience.

1. The total strength of the Bengal Native Army in 1875, including Madras troops, was as follows:—

	Present.	Absent.	Total.
Bengal Army - - -	53,617	9,177·5	62,794·5
Madras - - - - -	3,466·6	207·3	3,673·9
Total - - -	57,083·6	9,384·8	66,468·4

Out of the strength *present*:

The admission rate was, for—

Bengal troops - - - - 1,287·5 per 1,000
 Madras „ - - - - 897·7 „ „

On the same strength the daily sick were, for—

Bengal troops	- - - -	40·3 per 1,000
Madras „	- - - -	26·2 „ „

The death rates to *total* strength were—

Bengal troops	- - - -	16·3 per 1,000
Madras „	- - - -	14·2 „ „

When these rates were compared with the averages of the preceding 10 years they give the following results for Bengal troops :—

	Per 1,000 Strength.		
	Admissions.	Deaths.	Daily Sick.
Average of 10 years, 1865 to 187	1,384·3	18·5	43·8
1875 - - - -	1,287·5	16·3	40·3

This abstract shows improved health in the Native Army for 1875.

2. The death and inefficiency rates differed remarkably in different districts of Bengal Presidency. The highest death-rate, 29·1 per 1,000, took place in the Presidency district. The death-rate in Peshawur district was 23·4 per 1,000. The lowest death-rates, from 2·2 to 8·7 per 1,000, took place in Saugor, Allahabad, Rawal Pindee, Rohilkund, and Oude. The highest admission rate, 1,805·5 per 1,000, was in Peshawur district. The lowest, 696 per 1,000, was in Rohilkund. The daily sick were 66·8 per 1,000 in the Presidency district, and 26·2 per 1,000 in Rohilkund, which were the highest and lowest rate of the year.

3. An instructive illustration is afforded by Statement No. IX. in the Report of the difference between average death-rates and the actual facts. This statement divides the average death-rate of 1875, viz., 16·3 per 1,000, into the ratios due to 102 bodies of troops scattered over the Presidency. In 42 of these bodies the death-rate was under 10 per 1,000 strength, in other 34 bodies it lay between 10 and 20 per 1,000. In other 15 between 20 and 30 per 1,000. In seven it was between 30 and 40 per 1,000. In one the death-rate was above 45½ per 1,000. In another body it was about 51½, in another about 52½, and at Barrackpore, where the highest death-rate of the year took place, in the 10th Native Infantry, the death-rate was 64·4 per 1,000. Surgeon-General Fullerton Beatson, in his instructive report prefixed to those of the Regimental Surgeons, says, with respect to this table : “ It will be observed that the mortality of 43 regiments and batteries has exceeded 1·63 per cent. of strength, which was the death-rate for the entire army during the year 1875; and that 35 of them were stationed in the commands which I have already pointed out as being notably unhealthy for Hindustani troops.”

4. The following abstract gives the total admissions from the more important diseases in 1875 :—

Total strength Bengal troops	- - - -	-	62,794·5
„ Admissions	- - - -	-	69,036
„ Deaths	- - - -	-	1,026*
Diseases.	Admitted to Hospitals.		Died.
Ague -	-	33,262	89
Other fevers }	-	706	62
Enteric fever }	-	11	4
Cholera -	-	132	58†
Rheumatism -	-	2,556	2
Chest diseases	-	2,992	211
Dysentery -	-	3,703	38
Diarrhœa -	-	1,921	32

In round numbers, one half of the admissions and deaths were due to these diseases.

5. *Ague*. The great prevalence of malarial fevers is the first important fact in this digest. So far as is known, these fevers must primarily be traced to a malarial condition of subsoil due to defective drainage and the state of agriculture connected with it. On this important matter attention may be directed to the following remarks of the Surgeon-General, which appear to embody the results of the regimental reports :

He says, “ I have long been of opinion that the drainage (surface and subsoil) of many military cantonments is defective, and that it has been one, if not the principal, of the causes on which outbreaks of cholera and of malarial fever were dependent. * * *

“ I should like to see any one station of known unhealthiness *thoroughly* drained. The result might be worth the outlay. That the drainage of a good number of regimental lines was not efficient there is evidence in the sanitary reports; thus in the lines of the 10th Regiment Bengal Infantry at Barrackpore it is reported that at certain seasons the drains serve as inlets for the river water and that from tanks. They thus become reservoirs of the surface filth of the station, and give off most offensive odours when drying up” (the 10th Bengal Infantry, it may be remarked in passing, is the regiment already mentioned as having had a death rate of 64½ per 1,000 in 1875). Of the Sappers and Miners lines at Roorkee, it is stated that “ there is a

* 674 in hospital.

† Exclusive of deaths on furlough, which amounted to 28.

" great deal of solar evaporation when silt or badly constructed culverts choke the outfall. * *
 " At Gowhatty the lines are situated in the centre of a low swampy tract of ground from which
 " there is no natural drainage, and the artificial substitute for it is described as being as imperfect
 " as can well be imagined. The subsoil water throughout the station is at no greater depth than
 " one or two feet from the surface." (If stations with these fundamental defects must be occupied
 why should not the Burmese plan be adopted of raising the barracks on piles, say 6 or 8 feet
 above the ground level?) " The medical officer of the 25th Regiment Bengal Infantry at Meeran
 " Meer considers that the sickness of the regiment was caused by the heavy rainfall in October,
 " November, and the early part of December, conjoined with defective drainage. Wet encamp-
 " ing grounds along the line of march of the 4th Ghoorkas to the Delhi Camp were, along with
 " the effects of the climate, considered to have been the cause of a good deal of sickness in the
 " regiment. The fever cases which occurred in the 5th Regiment Bengal Light Infantry at
 " Meerut were considered to have been caused by the swampy condition of some ground close by
 " the lines after the rains.

" The lines of the 17th Native Infantry at Morar, situated between the confluence of the Morar
 " and Biswas rivers, are considered to be unhealthy."

Connected closely with the results of defective local drainage is a damp state of huts and hut
 floors, close to the level of which the men sleep. Given this condition, together with those defects
 mentioned in the drainage reports of the stations, the general results of which have been sum-
 marised in the passage quoted from the Surgeon-General's report, and we have the fundamental
 conditions on which predisposition to malarial fevers depends. These are of course intensified
 by defective diet, on which many men of their own choice try to live, defective clothing, a matter
 which will be again referred to, and great diurnal variations of temperature. Except the last-
 named condition, all the others admit of improvement or prevention, and a diminution of malarial
 disease might confidently be expected to result. In connexion with this subject, it appears
 necessary to call pointed attention to the case of the 10th Regiment Native Infantry at Barrack-
 pore already mentioned, as given in the inspection report as follows: " On the morning of his
 " inspection Mr. Cockburn inspected all the men of the regiment who were off duty, and they
 " were considered by him to be as a rule sickly looking and badly nourished, and four-fifths of
 " the men in hospital were found to have more or less enlargement of the spleen, and a large
 " proportion also were suffering from scorbutic symptoms. The excessive amount of sickness
 " during the year was chiefly due to malarious poisoning accompanied by a scorbutic taint due
 " no doubt to the want of a sufficiently varied dietary, and the abstention from fresh vegetable
 " food." There were 50 per cent. of the men in hospital. Even in hospital the patients retained
 money which ought to have been spent on proper diets. The facts are of so obvious a nature
 that it is only necessary to state further that marked improvement took place as soon as care was
 taken that the men fed themselves properly. The low state of the regimental health was in this
 case a predisposing condition to the attacks of malaria. There is no doubt that this was a
 typical case, and that its lessons ought to be applied practically in all Native regiments.

6. *Pulmonary Diseases.* In former Memoranda the Army Sanitary Commission called attention
 to the great prevalence of pneumonia in Native regiments, with a view to inquiry being made into
 its causes, and the present Report contains much useful information on this subject.

The following statement No. XIII., copied from the Surgeon-General's Report, will give an idea
 of the extent to which chest affections have contributed to the inefficiency of the Native Army
 of Bengal:—

Years.	Bronchitis and Bronchial Catarrh.		Pneumonia.		Pleurisy.		Other Diseases of the Chest.		Total Chest Diseases.	
	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.	Admitted.	Died.
1871	1,668	66	624	149	233	13	366	7	2,891	235
1872	1,909	61	498	103	187	8	353	16	2,947	183
1873	1,792	52	536	87	238	13	307	9	2,873	161
1874	1,749	25	544	111	209	8	248	7	2,750	151
1875	1,769	18	701	177	189	11	263	5	2,922	211

The most fatal of these diseases, pneumonia, gave rise to 177 deaths in 1875, or 25 per cent. of
 the cases. These diseases are most prevalent and fatal in Upper India and on the Punjab
 frontier at stations where there is considerable variation of temperature. It is a mistake to
 suppose that Indian stations are always hot. In the present report it is shown that at Mooltan
 the temperature has been as low as 42° F.; a fact which indicates a great diurnal range. Long
 ago the Royal Commission on the sanitary state of the Indian Army called attention to the
 importance of this temperature element at many Indian stations; and its influence on the
 prevalence of pneumonia and other chest diseases is shown in the present report.

The Surgeon-General informs us that medical officers are not quite agreed as to the etiology
 of pneumonia. It sometimes appears in a number of simultaneous cases, putting on the appear-
 ance of an endemic attack, and some of the phenomena have been considered to admit of
 explanation by assuming the contagious nature of the disease, an assumption leading directly away
 from the means required for mitigating its attacks. Facts extending over a number of years are
 still required to elucidate all the causes of pneumonia. We must, however, deal with those which
 have been arrived at, and take what practical good we can get from them.

Here, for example, are one or two facts: the 5th Punjab Infantry left Dera Ghazi Khan, which
 has a sub-tropical climate, on October 15th, 1874, for Abbottabad which has a winter cold similar

to that of the South of England, and arrived there on November 23rd. The regiment had a few cases on the march, but after their arrival at Abbottabad the disease increased rapidly; it carried off between 20 and 30 victims until the middle of March, when, with genial weather, the attack subsided.

At Peshawur the medical officer says: "When the thermometer is down to 52° or 51° during a great part of the day, with a cold cutting wind, and rain hanging about, then is the time to expect cases of pneumonia."

Another medical officer says: "The cause of pneumonia and pleurisy I believe to be exposure to the cold. It has always been a matter of surprise to me how Natives, poorly fed and often indifferently clad, resist exposure to cold in open barracks and flimsy tents in which Europeans would be most miserable."

Suppose Native troops, under such conditions, removed from the hot steaming plains of Bengal to the frontier stations of the north-west, and exposed to their cold and variable climates, it is not difficult to predict what would happen.

At these stations one medical officer considers that pneumonia is their "bête noir."

The result of the investigation, so far as it has gone, is summed up practically by the Surgeon-General, as follows: "The medical officer of the Guide Corps, when remarking on the freedom of the regiment from pneumonia during the past year, states that he attributes it to the capital clothing and the care that was taken to ensure the men when off duty being warmly clad, and his experience, gained during some years service on the north-west frontier, leads him to look on neglect in respect of warm undress clothing as the principal if not only cause of pneumonia. I consider the principle is all but universally applicable. Insufficiency of the diet and scanty supply of warm under clothing are the chief agents in the production of the bulk of the diseases from which Sepoys suffer."

Restricting the application of the principle here laid down to the present question, the Commission is desirous that special attention should be given to ensure as far as practicable, that the Sepoy feeds himself properly in order that he may be able to render the service the State requires of him, and that he be suitably clothed to meet the requirements of variable cold climates he may be called on to serve in. If attention be paid to these matters there is every reason to believe that the amount of fatal chest disease in the Bengal Native Army will speedily be reduced.

7. *Cholera*. The year 1875 was a cholera epidemic year, and yet there were only 132 cases and 58 deaths among troops at stations. The cholera mortality at stations was thus less than one third of the mortality from pneumonia (177 deaths).

It is unnecessary to discuss this portion of the report under review as the facts have been already noticed on other papers.

8. *Conservancy*. Increased attention is evidently being given to the immediate conservancy of cantonments; but at a number of stations the ground in the vicinity is in such a condition as to be a source of risk to health. Take for example the following facts about Alipore: "The latrines for the lines have been condemned over and over again. They are nearly half a mile distant from the lines, and were in a most filthy condition; the smell at times, especially when the wind blows towards the lines, being exceedingly offensive. How far the condition of this latrine is conducive to or productive of bad dysentery so prevalent among the men at Alipore is in my opinion a question well worthy of consideration."

It certainly is so, as it has been observed that even in England with its colder climate dysentery has arisen from emanations of similar filth carried by the wind from a distance. Generally in India wherever there is filth smell there is danger of bowel disease.

The regimental reports give many instances in which ground about stations is fouled by the men. It may be suggested whether the cheapest and most efficient manner of dealing with this practice would not be to supply a sweeper to cover up all deposits of this kind at once with earth.

In this way the Native habit might be continued on selected areas of ground to be alternately cultivated without risk to health.

The Surgeon-General states that "nullahs in or near cantonments generally become the receptacles for filth of all kinds. Their sides are overgrown with jungle, and, except in very dry weather or in very dry climates, they generally contain a greater or smaller quantity of stagnant and very filthy water. These nullahs on this account require constant supervision, otherwise they may in all probability become causes of sickness." We entirely concur with this view.

9. *Water-Supply*. At most stations of Native troops the water sources appear to have been undergoing improvement. But there are complaints against the water in several reports. At Peshawur the water is reported as very impure.

Water used during the cold season at Edwardesbad is taken from an open channel, two miles long, which runs through cultivated fields. Other similar cases might be given, but there are also cases of improved health from the introduction of better water.

10. *Badly fitting Boots* caused 2,542 admissions to hospital in 1875. Several facts are mentioned in the reports on this old cause of complaint which appear to show that it is attracting the attention of the authorities but not with much success apparently, as yet, if we may judge from the statistics.

11. *Gymnastics*. The following passage from the Surgeon-Generals report contains satisfactory information on this subject. He says: "The training the Sepoys now undergo in station and regimental gymnasia wherever reported on has been highly useful in setting them up and in developing their muscles and general physique, and is moreover quite in keeping with the natural

“direction of the sepoy's inclination.” Every British and Native soldier in India should be trained in these exercises.

12. *Huts.* Although barrack accommodation has been extended during the year, little appears to have been done in improving the sepoys' huts, which can still be described by the Surgeon-General as “small, low, badly lighted,” and affording indifferent accommodation. The whole question of hutting is so intimately connected with the question of sites and subsoil drainage that these points require to be considered together, for there is no doubt that bad locality and inferior hutting accommodation have much to do with the existing ill-health and predisposition to malarial diseases among Native troops. If further proof of this fact were required it would be supplied by the following experience given by the Surgeon-General of the beneficial results of leaving localities of this class. He says: “Every one of Indian experience is aware of the benefit which accrues to health from marching and camp life in the North-West Provinces, Oude, and the Punjab during the cold weather, and the opinions recorded in several sanitary reports as to the good effects which camp life exerted on the health of the men (some of whom were much debilitated as a result of duty in unhealthy stations) fully corroborate this belief. All the medical officers agree that the marches in ordinary course of relief were attended with good results.”

13. Although, taking the year's experience as a whole, these reports generally show improving sanitary condition of stations and improved health of Native troops, it is impossible to overlook the large excess of malarial diseases prevalent among them, and the high death rate from chest diseases, especially from pneumonia.

There is no mystery about the removable causes of these death rates; they are, on the contrary, of a very obvious nature: these are dampness of sites, low damp huts as cherishing fevers, deficient clothing as leading to fatal chest diseases, and defective dieting of themselves by the men as reducing their disease-resisting power. Now all these causes of inefficiency in the Native Army are absolutely removable, although their removal may necessitate innovation on old systems.

There are many localities where the Burmese hutting system might be introduced with immediate advantage. Again, the importance of warm clothing in the northern parts of India cannot be over estimated. During the winter months the cold at night is intense relatively, and there is frequently a range of from 40° to 50° F. in the 24 hours. Pneumonia, pleurisy, and other chest affections, may well occur under such conditions, and fever too, if the men have previously suffered from malarious poisoning. Better protection against these extremes of temperature is essential. As regards food, sepoys in Bengal are apt to suffer from inferior food as they find rice cheaper than flour. They should as far as possible be induced to live on the food they are accustomed to, instead of on the cheaper less nutritious food.

The choice before the authorities appears to lie in one or two directions, either to leave matters to follow their own course, or else to recognize the great importance of the disease causes which have been brought so prominently forward in the report under review and to make an effort to deal with them in the best practicable way.

Lastly, improvements in station drainage, latrines, water supply, and sanitary regulation should be pressed forwards, and the Commission concur in the view of the Surgeon-General as to the practical advantage likely to result from the thorough subsoil drainage of some one unhealthy station, a measure proposed by them long ago as worthy of trial.

24th July 1877.

No. 16.

MEMORANDUM of the ARMY SANITARY COMMISSION on the MEDICAL and SANITARY REPORT of the NATIVE ARMY of MADRAS for 1875.

This Report consists of an instructive digest of medical and sanitary facts contained in a communication from Surgeon-General E. G. Balfour to the Madras Government, followed by reports on the medical and sanitary condition of each division, station, and regiment of the Madras Native Army for the year 1875. Much of the detail is, as usual, of a purely departmental character, not coming within the sphere of the Army Sanitary Commission, but not many reports on the same subject hitherto received from India have contained so much information on the sanitary state of the Native Army, or shown a more enlightened appreciation of the real importance of the sanitary element to the efficiency of Native troops.

It is proposed in the remarks which follow to call attention to the more important points in the Report bearing on this subject, and to the practical principles which may be deduced from them.

1. The average strength of the Native Army of Madras for the year 1875 was—

Total strength	-	-	-	-	-	30,256
Absent	-	-	-	-	-	2,465
Present	-	-	-	-	-	27,791

The number of “absent” amounted to 8·14 per cent., the largest proportion of any of the five years given in the Report, and is probably explained by “the progressive facilities for sending away sick men to a distance for change of air.” However desirable this measure may be, its probable effect in lowering the death and raising the apparent inefficiency rates of the Native Army is not to be overlooked.

2. The next abstract gives the rates per 1,000 from inefficiency causes for 1875, contrasted with the same data for the three preceding years :—

Years.	Ratio per 1,000.				
	Admissions.	Daily Sick.	Total Deaths.	Invalided for	
				Discharge.	Sick Leave.
1872 - - -	1,011·5	31·1	12·2	17·2	22·2
1873 - - -	874·6	29·1	9·2	19·4	18·2
1874 - - -	812·0	30·6	9·9	29·5	21·2
1875 - - -	798·2	30·2	11·7	30·1	24·0

The following were the total numbers of the chief inefficiency causes :—

	Admissions.	Deaths.
Eruptive fevers - - - - -	94	—
Continued ditto - - - - -	822	10
Malarial ditto - - - - -	7,804	50
Rheumatic diseases - - - - -	1,302	3
Diseases of eye - - - - -	1,015	—
Disease of lungs - - - - -	670	50
Diarrhœa - - - - -	855	21
Dysentery - - - - -	787	14
Skin diseases - - - - -	2,320	—

The mortality relative to strength from these diseases for the last three years has been :—

	Ratio per 1,000.		
	1873.	1874.	1875.
Eruptive fevers - - - - -	·03	·07	—
Continued ditto - - - - -	·2	·2	·3
Malarial ditto - - - - -	·8	1·4	1·6
Rheumatic diseases - - - - -	·03	·03	·09
Lung diseases - - - - -	·8	1·0	1·6
Diarrhœa - - - - -	·3	·4	·6
Dysentery - - - - -	·4	·6	·4

With the single exception of the death-rate from dysentery, all the other death causes showed higher rates in 1875 than in the two preceding years.

3. The following were the actual numbers invalided in the year for which the causes are assigned; but the total invalids were 729 for change, and 911 for discharge :—

	For Discharge.	For Change.	Total Loss.
Eruptive fevers - - - - -	1	1	2
Continued ditto - - - - -	1	11	12
Malarial ditto - - - - -	21	189	210
Rheumatic diseases - - - - -	67	68	135
Eye diseases - - - - -	48	7	55
Lung diseases - - - - -	30	63	93
Diarrhœa - - - - -	—	41	41
Dysentery - - - - -	2	23	25
Skin diseases - - - - -	11	8	19
	181	411	592

It is impossible to peruse these statistical data without seeing how large an influence local disease causes productive of malaria and dampness, together with climatic agencies, such as rainfall and variable temperature, exert on the efficiency of the Native Army in Madras and its outlying stations, and it is not surprising to find how large a space of the sanitary notes on particular stations is devoted to them.

4. The drainage defects are due to three causes :—

First. The position of lines in localities which scarcely admit of efficient drainage on account of lowness of ground, water-logged subsoil consequent on this topographical defect, and damp rising in the floors and walls of the men's huts.

Second. Want of subsoil drainage where the ground might be drained, leading to similar results.

Third. Defective attempts at surface drainage by cuttings in the ground, by which not only surface water but the sewage of huts is conveyed directly into the subsoil, thus increasing the evils which surface work of this kind is intended to remedy.

Each class of defects will come up in its place in the following brief abstract of sanitary notes on stations, to which attention may be called, beginning with the drainage.

(a) *Madras (Vepery).*—Lines low, and drainage defective. Huts not good.

(b) "*Cuttack* continues a hot-bed of malaria. The drainage of the lines could hardly possibly be worse. The ground itself almost a dead level; the drains simply shallow open trenches, into which flows all liquid filth from the huts, as well as surface drainage generally, percolating into the subsoil, and during the greater part of the year, when there is no rainfall to flush the channels, giving rise to most offensive odours." The reporter understood that the drains were about to be faced with stone. The site appears to be below the level of river floods, and the ground marshy as a natural result. It is doubtful whether any real drainage improvements are practicable in such a position, except at too great an outlay. The 41st Regiment, Native Infantry, at this station, out of an average strength of 633·5, had 1,017 admissions to hospital from malarial fever. It lost 56 men by invaliding and sick leave, which may account for its low death-rate, 5·6 per 1,000.

(c) *Sambalpur.*—"Drains are built in the V pattern, of stones which, not being set in chunam, permit earth contamination." Beyond the lines the channels are merely cut out of the earth, and emit at times a most offensive odour." The insalubrity of Sambalpur had been very marked during the year. The solitary cell is in a "most insanitary" state.

(d) *Berhampore.*—"The lines at Berhampore continue in *statu quo*, and the occurrence of 56 cases of cholera, with 19 deaths among them, in the right wing of the 2nd Regiment, Native Infantry, is a lesson which ought not to be forgotten." The drainage and the sewerage of the lines are very imperfect. This condition has frequently been brought to notice." At this station the death-rate was 21 per 1,000.

(e) *Vizianagram.*—"Drainage of lines defective on account of insufficient slope of main drain."

(f) *Palamcottah.*—The family latrines are situated just in front, or a little on one side, of the hut doors, and infect the air inside the hut. The drains are mere cuts in the ground, with little or no fall, and the house refuse percolates into the subsoil.

5. There is an interesting report on the Mysore division by Dr. George Smith, Deputy Surgeon-General, which contains much interesting information about troops and stations in this region of India. Amongst other things he has enunciated the following propositions:—

- (1.) "To the sanitarian cholera means dirt" (although to the ætiologist it may mean more), a motto which might very well be written up everywhere in India; "and truly," he says, "there is no lack of this in the Mysore Province and in the Ceded Districts."
- (2.) "The unit of sanitary administration in civil life is the house, in military life the sepoy's hut, and, until these houses and huts are placed in a sanitary condition, the mere sanitation of surroundings will have but little influence upon the mortality and sickness ratios." The truth of this proposition may be admitted if it is made to include certain things without which no house or hut can be healthy, viz., dry healthy site and plan, drainage and good water. On the other hand, as Dr. Smith argues, much benefit cannot be expected from such conditions if the house or hut itself is of a character inconsistent with healthy occupation.
- (3.) "It is a matter of some difficulty, and a constant labour, to keep the old lines and huts in a satisfactory state of sanitation." The huts are badly constructed and of mud. "The streets and lines are frequently much too narrow, and the total absence of artificial drainage leads necessarily to the extreme sulliage of the soil, and to the inevitable pollution of the water of neighbouring wells."

The remedies Dr. Smith suggests are the adoption of some uniform plan for the latrine and lavatory of the sepoy's hut, regimental latrines for both sexes, experiments on the dry-ash and dry-earth systems, and efficient artificial drainage of the lines. As regards the stations:—

(a) *Bangalore, Head Quarters, Sappers and Miners.*—Complaint is made of foul odours from the municipal drains running along the southern front of the lines, and of other sanitary defects in the vicinity.

(b) *Bangalore, 23rd Light Infantry.*—Drains throughout the lines are objectionable. They are mere open ditches cut or worn out of the soil, into which there is a constant flow of wash from the huts, and consequent percolation. The domestic privies are a "standing nuisance." With reference to these lines, Dr. George Smith states that the large "box drains" in the vicinity are "kept clean with great difficulty," and that "the lines, as a whole, exhibit all those defects which sanitary science condemns," only to be overcome by reconstruction. The Medical Officer reports strongly against the existing state of the conservancy in the neighbourhood of the lines. Forty per cent. of the admissions to hospital from this regiment were due to fever.

(c) Regarding sickness in the 36th Regiment, Native Infantry, at Bangalore, the Medical Officer reports that "ague, as usual, heads the list," but that this disease will doubtless diminish when the whole corps is properly huted.

6. While calling attention to these defects, the Commission desires, at the same time, to cite Dr. Smith's testimony to the fact "that the great and pressing subject of sanitation is securing the attentive consideration of all authorities, whether military, civil, or medical, and that fair, though not always rapid, progress is being made in reducing the principles of the science to practice." The chief difficulty is in dealing with the habits and prejudices of the Native troops, which are often opposed to sanitary procedure.

(a) *Mercara*.—The Surgeon of the 28th Regiment, Native Infantry, says that “the sanitation of the lines will never be fairly good until good brick and chunam drains are put up and the basin beneath the lines drained.” He makes the following remarkable statement:—“The principal causes of disease have been bad or insufficient food, cold” (the station is 4,500 feet above sea level), “thin and insufficient clothing when not in uniform, malaria.” This must be left as it is given for inquiry and remedy, if such be needed.

(b) *Bellary*.—In the lines of the 21st Regiment, Native Infantry, at this station, the hut sewage is conveyed by drain pipes into chatties placed outside, which are emptied morning and evening by the municipality. This was done to prevent the sewage passing into the subsoil. It exhibits house drainage in its most elementary form, and is better than fouling the ground between the lines.

(c) *Secunderabad*.—The following account of the drainage of Native lines is given by Deputy Surgeon-General Burn:—“Surface drainage in all the lines is defective, only shallow trenches along the sides of the streets exist, which soon get silted up, more especially in the monsoon.” Some lines are, it appears, built across the natural drainage fall.

(d) Of one set of lines, those of the 1st Regiment Light Cavalry, the drainage and other sanitary conditions are reported as eminently satisfactory, “and to these conditions was largely due the high state of health the regiment enjoyed.” The average strength was 202, out of which there were 111 admissions during the year; the daily sick in hospital averaged only 3, there were 2 deaths, 6 men were pensioned, and 2 went on sick leave.

In all the other Native lines at Secunderabad the drainage appears to be done mainly by surface cuts, and there is lodgment of water and damp during the rains.

(e) *Kamptee*.—The Medical Officer of the 2nd Regiment, Light Cavalry, says that his belief is “that the admissions from malarious causes would be diminished one half were a thorough system of subsoil drainage to be established. The subsoil is very retentive of moisture, and the houses are very damp in the rains.” The general sanitary state of Kamptee has nevertheless undergone improvement, for Surgeon W. E. Johnson, in charge of the 35th Regiment, Native Infantry, says: “Some years ago the station of Kamptee had the unenviable reputation of being unhealthy, but happily for the residents it is now one of the healthiest stations in India, and this change is no doubt due to the improved sanitary arrangements.”

(f) *Seetabuldee*.—The Deputy Surgeon-General says that “the lines are situated in a swamp, and have been condemned in every report forwarded, . . . and although everything has been done that can be done by the regimental authorities to improve the drainage, it still remains very faulty; . . . unless the present site of the lines is abandoned and a less objectionable one selected, it is not easy to suggest a remedy for the state of matters as reported.” He expresses his astonishment “that the rising piece of ground on the opposite side of the road from the lines should have been overlooked by the Committee when selecting a site for lines.” He says: “The site adverted to is in every way eligible, as regards soil, elevation, and natural configuration, for the most perfect drainage.”

One third of the entire number of admissions at this station was due to ague.

(g) *Hoshungabad, 22nd Regiment, Native Infantry*.—During the cold season the chief diseases are intermittent fevers, of which the predisposing causes are stated to be—“(1) bad housing; (2) want of proper warm clothing; (3) insufficient and non-nutritive food in many instances and the fact that the men and their families generally sleep on thin mats spread on the cold ground instead of on charpoys. . . . As really no system of drainage beyond merely the shallow drains on either side of the streets is carried out, and bearing in mind the retentive nature of the subsoil (black cotton), it is not to be wondered at that the walls and floors are always more or less damp during the rains.”

A test illustration of the effects of this ground damp is given regarding the Officers’ quarters at this station. The main surface water drain of part of the lines runs through the Officers’ compounds. During the rains this drain overflowed and saturated the ground, and several Officers were seized with fever.

(h) At *Saugor* the position of lines occupied by the 5th Regiment, Native Infantry, is described as “low, and in the rains little better than a swamp, and was formerly the site of a burning and burial ground. The huts are low miserable little buildings.”

(i) A matter of experience may be cited from the *Nagode* report as follows:—“The drainage of the lines is now very satisfactory; the old V-shaped drains, which it was found very difficult to keep clean, have been replaced by open saucer-shaped drains of masonry . . . These drains are swept daily and flushed with water twice a week.”

(k) At *Dorundah*, in Bengal, the sewage from the huts is passed into surface cuts and so into the subsoil; the Medical Officer very properly says “this must be a potent cause of disease amongst the men.” This station is 2,100 feet above the sea level, which to some extent neutralizes this defect, but does not justify it.

7. *Water-supply*.—There is no sufficient information as to the condition of the water used by Native troops. In one or two cases complaints are made, in others it is evident that wells have been improved, but the general impression produced by the paragraphs relating to this important subject is that there is little now to complain of.

8. *Conservancy*.—There are a few complaints of local nuisances, but as a rule the lines appear to be kept clean. The main difficulty arises in the latrine arrangements for families, which appear to be of a very unwholesome character, chiefly on account of the number of inmates crowded into the small hut which constitutes the Native soldiers’ barrack accommodation. From suggestions made in the reports this whole subject appears to require consideration, with the view of determining whether a remedy for the present state of matters might not be found in providing common latrine accommodation in suitable places for the lines, or in the introduction

of better domestic contrivances, involving speedy removal of all excrementitious matters beyond the lines.

9. It is evident from the general tenor of the reports, as well as from the statistical data contained in them, that future progress in the sanitary state of Native troops in Madras Presidency lies in the direction of improved position of lines, better huts, and efficient station drainage; the chief points in which have been abstracted in the preceding paragraphs.

The present position of the whole question, as regards the Native Army in Madras, cannot be better described than in the following extract from Surgeon-General E. G. Balfour's report, already referred to:—

“Of late years the efforts to improve the sanitary condition of the huts and lines of Native troops have been unremitting, and to the results of these may, in a great measure, be attributed the comparatively favourable state of health enjoyed by the Native Army during an unhealthy year. Scavenging, drainage, water-supply, ventilation of huts and lines, have all received careful attention; and although much remains to be done, nearly all has been effected that could possibly be carried out with the available means and under existing circumstances. In some cases the sites of lines are naturally bad, and so long as financial exigencies prevent the construction of proper drains, it is quite impossible to entirely prevent the pollution of the ground by sewage. Again, as to the huts, it is quite easy to describe what a sepoy's hut ought to be, but the Native soldier cannot afford to erect a more perfect and, therefore, more expensive dwelling than the one which he now inhabits. It would be a matter of economy were the State to provide quarters for the Native as it does for the European Army, but till that be done, we can only try to reduce the unhealthy features of Native lines and their surroundings to a minimum.”

10. Mr. Balfour's views are, no doubt, consistent with the facts, but it may be suggested that the sepoy might be advised, or, in cases where the Government grants assistance, required, to conform to such simple constructive sanitary principles in erecting his hut as shall obviate the defects referred to. Generally speaking, it is not so much money that is needed as an intelligent application of means at the sepoy's disposal. But, thanks to the energy of the authorities, much has been already done to remedy defects, and to provide more healthily constructed lines for Native troops. The problem would be greatly simplified were it possible to get rid of the crowd of people who follow the Native soldier and prey on his limited means of subsistence, or, at all events, to limit the number. The Native soldier in the Madras Army not only has to support his family out of his small means, but an army of paupers, many of whom are described in these reports as being quite able to find their own living. The result is that the servant of the State is badly fed, insufficiently clothed, his hut is crowded to excess, and the subsoil of the lines and huts in which he lives is fouled to a far greater degree than would be the case without them.

11. The reports clearly shew that some of the most important drainage works for Native lines could be executed by unskilled labour, if properly directed; and if the labourers are there and are fed by the soldier really at the cost of the State, it becomes a question whether this labour might not be made useful in draining wet ground, and for general improvements in the drainage of stations. There are, of course, some portions of the work requiring special material and more skilful labour in its use.

12. There are facts sufficient, in the preceding abstracts, to show that there is a large amount of drainage work required at most of the stations.

Not much has been gained in the way of experience in this matter, and the principles long since laid down by the Army Sanitary Commission on the subject may still be taken as a guide. These may be summarized as follows:—

- (1.) Station drainage for removal of rainfall must be effected over the surface.
- (2.) Mere surface cuts, except on steep inclines only, afford a more certain means of water-logging the subsoil.
- (3.) Efficient surface drainage requires that the rainfall and all other liquids received by the drains shall be kept out of the subsoil, and passed to the outfall as rapidly as possible.
- (4.) Box drains or V-shaped drains for such purposes, although greatly superior to mere cuts, are useful only so far as they are impervious and easily cleansed; and broad, shallow, impervious saucer-sectioned drains are the best for meeting the conditions of drainage described in the present Report.
- (5.) Some remedy for damp floors, even in existing huts, might be found in raising the floors above the ground level by clean wholesome earth, and further by raising the beds on charpoys, or some similar contrivance. In new huts means could be adopted to prevent damp in both floors and walls.
- (6.) The important question of latrines for families in Native lines requires to be dealt with.

Lastly, the principles for protecting wells from subsoil pollution may be again stated. They are as follows:—

The best wells to be selected for culinary and drinking purposes. The tubes of these wells to be protected by a layer of concrete round the tube to a sufficient depth to cut off the impure subsoil drainage. The tube to be raised two or three feet above the surface level, and the surrounding area concreted, with a slope away from the well, and with drainage for the removal of waste water. The well to be covered.

Water to be drawn, not by dipping everybody's vessel and cord into the well, but by an iron bucket and iron chain.

22nd May 1877.

No. 17.

MEMORANDUM of the ARMY SANITARY COMMISSION on the MEDICAL HISTORY of the NATIVE ARMY of BOMBAY for 1875.

1. The following table gives the leading statistical facts bearing on sickness and mortality in the Native Army of Bombay for four years ending 1875 :—

Years.	Average Strength.	Average Daily Sick.	Average Daily Sick per 1,000 of Average Strength.	Admissions.	Deaths.
1872 - -	22,903	1,040·0	45·4	36,309	226
1873 - -	22,967	876·2	38·2	29,035	165
1874 - -	22,750	835·7	36·6	26,621	176
1875 - -	22,819	772·7	33·8	25,475	213

The death column contains only the deaths in hospital. But the total deaths in 1875 were 279. The total deaths in and out of hospital in 1874 were 248. The augmentation of deaths in 1875 is stated by the Surgeon-General to have been almost entirely attributable to epidemic cholera in the Poona and Northern Divisions.

Otherwise the statistics show a progressive reduction of admissions and daily sick, which the same officer considers to have been the result of measures taken to preserve the health of the Army, except in notoriously unhealthy stations in Sind.

The ratios of loss and inefficiency for the last five years have been as follow :

Years.	Ratios per 1,000.					
	Admissions.	Daily Sick.	Total Deaths.	Invalided for Discharge.	Invalided for Change.	Loss by Invaliding and Death.
1871 - - -	1,295	43·1	14·3	31·2	21·0	66·7
1872 - - -	1,580	45·4	14·0	39·8	21·3	75·1
1873 - - -	1,268	38·2	10·7	43·5	21·1	75·3
1874 - - -	1,169	36·7	10·9	46·0	17·3	74·2
1875 - - -	1,116	33·8	12·2	42·7	18·3	73·2

These figures, although showing a reduction of late in certain elements of inefficiency, cannot be considered as altogether of a satisfactory nature.

It is true that the proportions of admissions and daily sick have been lower, and also, perhaps, the mortality, excluding cholera, but the losses by invaliding are very high, and point to weakened constitutions among the men, a point which will be referred to further on.

An interesting fact in connection with the admissions in 1875 is given with regard to the 20th Regiment, Native Infantry, showing the relation of the number of admissions to the actual number of men admitted to hospital. It is as follows :—

Strength - - -	-	-	621
Total admissions - - -	-	-	624
Number of first admissions - - -	-	-	369
Re-admissions :			
For the same disease - - -	-	-	83
For a different disease - - -	-	-	255

It thus appears that, although the admissions equalled the strength, the total occurred in 369 men, a not unimportant element in the question of efficiency.

2. The chief cause of admissions to hospital in 1875 was malarial fever, of which disease 10,566 cases were under treatment—not much less than half the strength of the Native Army. There were 22 deaths from these malarial fevers. An interesting point of comparison, showing the importance of this class of diseases, is given by the Surgeon-General. It is as follows : “The percentage of malarial fevers to the total diseases treated was, for the Presidency 35·2, for Poona 37·7, for the Northern Division 39·7, and for Sind 52·8.”

These percentages for the four military divisions may be taken as showing the relative prevalence of local causes of malaria in Bombay, including the influence of climatic changes.

The high ratio which this class of fevers shows in Sind is, unfortunately, not an isolated fact.

Of other fevers, there were 691 cases and 2 deaths from those of the continued type, and 150 cases and 1 death from eruptive fever.

3. *Cholera*.—Notwithstanding the great cholera epidemic of 1875, there was no case among Native troops in either the Presidency or Sind Divisions. In the other divisions the facts were as follow :—

	Cases.	Deaths.
Poona - - -	22	15
Northern - - -	98	56
	120	71

Mehidpur, in the Northern Division, has often been referred to by the Commission on account of its unhealthiness.

The 10th Native Infantry, 361 strong, at this station had from cholera among—

	Cases.	Deaths.
Men	43	24
Women	18	8
Children	13	7
Camp followers	8	4
	82	43

4. *Pulmonary diseases* yielded 1,491 cases and 43 deaths.

Diarrhoea and Dysentery.—Of the former there were 706 cases and 7 deaths; of the latter, 635 cases and only 2 deaths.

Scurvy yielded 198 admissions, a considerable proportion having occurred at Aden, attributed to low state of constitution arising mainly from defective dieting.

Rheumatism was prevalent as usual. There were 1,474 cases and 4 deaths from this disease.

5. These are the principal facts regarding the prevalence of disease during 1875. It will be seen that the chief disease cause has been malaria, and in examining the reports of different stations it will also be seen that there exist at not a few stations removable conditions, to the presence of which this disease cause mainly owes its origin, as well as other defects requiring attention.

In a Report so full of departmental detail as the present one, perhaps the best way will be to quote as briefly as possible the sanitary defects at each station, to which attention may profitably be directed by the authorities in India.

(1.) *Tanna*.—Latrines require improvement, "creating a most offensive stench to all around the neighbourhood." Not used whenever they can be avoided.

(2.) *Bombay, 20th Regiment, Native Infantry*.—Ground within the lines rocky and uneven; requires levelling to prevent accidents.

(3.) *Aden, Her Majesty's Aden Troop*.—No hospital. Hospital assistant lives and dispenses in a guard cell, unless it is otherwise wanted. No latrines, and sick men have to go a long way in the sun.

Aden, 2nd Grenadier Regiment, Native Infantry.—Rooms so hot that men sleep in open air, "rendering themselves liable to pneumonia, dysentery, and other acute diseases." No drainage, refuse water sinks into cesspits. Latrines require improvement. Water not good, on account apparently of volcanic impurities. Condensed water used. "But after filtration the water is collected in wooden casks which are placed along the sea beach, and, being exposed, is quite liable to contamination with sea water and other impurities." This surely admits of easy remedy.

It appears that carbonate of iron is used as a filtering material for the distilled water, rendering it ferruginous to the taste. This, it must be stated, is no part of Dr. Normanby's apparatus, in which animal charcoal only was to be used.

Native troops have suffered considerably at Aden from scurvy, apparently the result of inefficient dieting. The Medical Officer states that those whose pay is good, and can live comfortably, never have suffered. He suggests that the rations should be issued every day or two, instead of once a fortnight, as the men are tempted to convert them into money.

(4.) *Poona, Her Majesty's 1st Regiment, Light Cavalry*.—Subsoil so retentive of moisture (from absence of adequate drainage apparently) that the only escape for water was by evaporation in August and September, and the effect was "the prevalence of ague of rather a severe type," and "all the European Officers without exception suffered from a grave form of ague in common with the men." In this case drains were cleaned out and other ones made, and it must be hoped with advantage; but to be really successful the work must be done in a more permanent way, as pointed out by the Medical Officer.

Poona, Her Majesty's 8th Regiment, Native Infantry.—Dangerous and offensive nuisance from open sewers in sudder bazaar, a case of typhoid fever distinctly traceable to this cause. Water is supplied by the Kharakwasla canal, of good quality, but it will not be safe so long as it is conducted in an open channel.

There is, besides, a bad well, from which the troops take water, although forbidden to do so. (Why cannot the well be closed?)

The Medical Officer of this regiment states that "three fourths of the admission to hospital under the head of 'contusions' are caused by badly made and ill fitting boots." This complaint reappears in other reports, and has been frequently brought to notice by the Commission. He further calls attention to a fact common in the Madras Native Army, viz., that "the Mahrattas, especially those coming from the Konkan, who usually have large families," are habitually victimized by relations who come at frequent intervals to prey upon the sepoy's overburdened resources.

This is one cause of underfeeding and scurvy. The remedy proposed is working pay when engaged on field works, but it may be suggested whether the real remedy would not be found in making the idle relatives do part of the work.

Poona, Her Majesty's 17th Regiment, Native Infantry.—The hospital latrines of this regiment are bad.

(5.) *Kirkee, Sappers and Miners*.—"The conservancy for the new lines is that utterly bad and abominable system" of trench latrines. The reason of this denunciation is stated to be that in the rains "the field becomes almost a lake, and the drainage of it is almost directly into the river, about 200 yards above the spot whence all the drinking water for the lines is drawn."

The Medical Officer states that he has reported against this mischief month after month without avail.

The objection lies not against trench latrines if suitably managed and made in dry ground. But in this instance, as in many others, even where sites for stations have been selected, the fact has been overlooked that the site should be examined in wet weather after rains, as well as in dry weather. It is contrary to all sound sanitary principle to dig such latrines in ground liable to be flooded, especially if the foul drainage from it may pollute any water source, whether well, tank, or river. It is clear that in this case a mistake has been made, which ought to be rectified as speedily as possible by the adoption of some other system of latrines.

(6.) *Sholapur, Her Majesty's 19th Regiment, Native Infantry.*—This station is one of the most malarious in Bombay Presidency, for reasons long since pointed out on the spot. The Medical Officer of this regiment makes a remark of some importance on the relation of climatic to local causes in predisposing to malarial fevers which it might be well to follow up. The average strength of the regiment has been 688. In July 1874 there were 597 admissions from malarial disease, and in 1875 the number fell to 345. Seeing that all the local conditions were the same, what could have been the cause of this diminution?

The Medical Officer states that there was less rain in 1875, but also that it fell in heavy showers, with considerable intervals of fine weather, so that the ground did not get saturated with moisture, and that there was not the usual sudden change from a warm moist to a cold bracing air. As a single observation, this fact is important as showing that similar observations might possibly throw light on the relation of climate to ague, but it is, nevertheless, in accord with what is already known on this subject, and appears to show that the exceptionally malarial condition of the place might be remedied by the drainage proceedings proposed by the local Committee long ago, the object of which was to prevent the ground becoming water-logged, whether there was much or little rain.

(7.) *Asseergurh, Detachment of Her Majesty's 4th Regiment, Native Infantry.*—In this Report is given for the first time an account of the water supplied to troops at this station. There are two tanks, the "Sucker Bowree" and the "Mamoo Banja." Neither affords a sufficiently pure water for culinary purposes, and the attempts made at filtering the water of one of the tanks have been only partially successful. This has partly arisen from the construction of the filter, which, even as it is, has reduced the worst impurities by oxidation. Further attempts in this direction are to be made, and it may be well to keep in mind that filtration, properly so called, includes straining out all suspended impurities and oxidizing the soluble organic matter. For the latter purpose the filter must expose a sufficient surface to the air to renew its oxygen, and the water must pass through it slowly enough to become oxidized, and the filter should be emptied and have rest to enable the surface to be cleansed and renewed, and its oxygen replaced. It is possible that better filtration results may in this way be obtained, but otherwise a new source should be sought. Since this Report was referred to the Army Sanitary Commission, the tank has been examined, and it was then found that it had never been cleaned out within the memory of man. Of course, no mere filtering could remove the accumulated filth in the water.

(8.) *Sattara, Her Majesty's 4th Rifles.*—The following description of this station speaks for itself, but whether the proposed administrative remedy would necessarily lead to better sanitary work being done we have no means of knowing. The one requirement is that this state of things should cease as speedily as possible. "The defects of drainage in the lines are obvious enough. It was proposed to introduce a proper system of drainage, by which the surface gutters should be widened, deepened, faced with masonry, and covered to prevent their noisome contents from contaminating the air" (a remedy worse than the disease; there should be nothing in them to contaminate the air). "The present plan of sweeping the gutters, redolent of much impurity" and night-soil, judging by the sense of smell, is exceedingly offensive, and cannot be condemned in sufficiently strong terms. . . . Sanitation is at a discount, and nothing in a sanitary point of view will be done effectively until Government sanction the re-conversion of Sattara from a civil to a military station."

The water-supply is on a par with the sanitary work, as it appears, from a rough analysis of well water used by the sepoy, that it contains the enormous amount of 224 grains of solid matter per gallon, and that each gallon contains $34\frac{1}{2}$ grains of chlorine.

It is evident that the sanitary state of this place requires complete reform. The Medical Officer also proposes better lines and a hospital. The present "makeshift," he says, is virtually in the bazaar, the sanitary condition of which "is disgraceful."

(9.) *Dharwar, Her Majesty's 12th Regiment, Native Infantry.*—This regiment, 685 strong, was moved into a new cantonment, on "well selected, high, open ground," two miles to the north of the fort and town.

Water has been provided from new wells, and the analyses give some instructive details regarding the water.

In the sepoy's well there are 25·76 grains of solid matter per gallon, and in the Officers' well 10·08 grains per gallon. The former has ·28 and the latter ·84 grains of volatile matter per gallon, and the amounts of chloride of sodium are respectively 6·83 and 3·89 grains per gallon.

The organic elements are as follow:—

	In parts per Million.	
	Sepoys.	Officers.
Ammonia, free	·28	·26
„ albumenoid	·08	·13
Nitrates and nitrites	15·00	15·00
Oxygen required at 140° F.	·0350	·0560
With nitrous acid	·0402	·0201

The waters are perfectly clear, and contain no organisms, only a little red oxide of iron.

These waters have been obtained apparently from a subsoil which was formerly rendered impure by animal organic matter, long since oxidized and converted into nitric and nitrous acid compounds, although traces of ammonia are still present. It seems likely that casing the wells, and surrounding the tubes with concrete to a sufficient depth to cut off the immediate subsoil water, would be all that is necessary to render the wells quite safe. But care must be taken to keep all sewage impurities out of the subsoil, otherwise the presence of these in the water in a less innocuous form may be recognised at no very distant date.

The following have been the results of change of lines to the men's health :—

Strength	-	-	-	-	685
Admissions	-	-	-	-	363
Deaths—3 cholera, 1 bronchitis	-	-	-	-	4
Average number of sick men	-	-	-	-	18.3
" " " " " " " " " " " "	-	-	-	-	5.
Ratios per 1,000—Admissions, to strength	-	-	-	-	530
" " " " " " " " " " " "	-	-	-	-	5.83

The new lines were built by the regiment in two years, and it cannot be said that the results of the entire change were other than most satisfactory. Had there been no cholera there would apparently have been only one death during the year.

The statistical tables in the Report enable an idea to be arrived at of the causes of admission in these new lines, as follows:—

	Admitted.
Continued fevers	7
Malarious ditto	87
Cholera	3
Rheumatism	24
Lung diseases	18
Diarrhœa	9
Dysentery	6

These facts are striking enough when compared with admission causes among Native troops generally, and show how important an opportunity is afforded in this case for arriving at an estimate of the amount of inefficiency due to removable conditions.

(10.) *Ahmedabad, Her Majesty's 3rd Regiment, Native Light Infantry*.—The following points in this Report require notice.

There are two water sources,—the river and wells. The river water becomes impure from organic matter during the latter part of the hot season, and is used by the troops and bazaar people "to the detriment of their health." The remedy proposed is the obvious one of providing more wells.

The next remark of the Medical Officer speaks for itself. He says: "The boots still remain a source of continual admissions into hospital from shoe bites." The time appears not yet to have arrived for dealing effectually with this indefensible cause of inefficiency in the Native Army.

(11.) *Baroda, Her Majesty's 22nd Regiment, Native Infantry.*—The following dangerous nuisance requires removal. The Medical Officer says that the latrine trenches are about 200 paces from the hospital, and 100 yards from the nearest well, and "when northerly winds prevail the trenches become a perfect nuisance to the sick and to all the hospital establishment." Bad latrine arrangements in this instance lead to pollution of air, earth, and water.

(12.) *Rajkote*.—Complaints are made by the Medical Officer of No. 1 Company, Native Artillery, and also by the Medical Officer of the head-quarter wing of Her Majesty's 7th Regiment Native Infantry, of the following highly dangerous arrangement. "The hospital water-supply is "from a large well; the water from it is good;" there is one great objection, which may one day prove a source of great danger to the persons compelled to use this well,—the hospital latrine is situated only a few yards from it, being placed between the "prevailing wind and the well." The probable result of placing latrines and wells in proximity has been so long and so well known that it cannot be otherwise than a matter of surprise that such an arrangement was ever adopted, but what can be said of its continuance after attention had been pointedly called to it, and without result? The latrine should be removed without delay, cleansed out, and filled with rammed clay after quicklime has been thrown over its surface.

The statement as to the hospital well water being good is a doubtful one under the conditions mentioned, and there is besides an analysis given of water ("considered to be the best well in the "camp") used by troops, which shows 22·8 grains of solid matter per gallon, of which 15·26 are stated to be organic matter, and 2·95 grains of chlorine. There is apparently some error in transcribing the figures in the Report, but, if they are given correctly, all that can be said is that the sooner the station is supplied with better water the less will be the risk to health.

(13.) *Deesa*.—Sanitary work, including tree planting, appears to be progressing at this station. The only point which appears to call for notice is that the latrines of the 18th Regiment, Native Infantry, are at a distance of some 400 or 600 yards, which is certainly inconvenient at night. They are in the river bed, and everything soaks into the subsoil. It may be suggested whether some more satisfactory arrangement could not be arrived at.

(14.) *Mhow*.—The chief point of importance at this station is the trench latrine system and its results. It appears that the 25th Regiment, Native Infantry, has an area of about 250 yard square set apart for latrines on the trench method. These are not used in the rains, but they nevertheless give rise to nuisance, and an instance is given where emanations from latrines of the same kind were attended by an outbreak of cholera, and also by an isolated case of cholera, clearly the result of foul air currents from them. The Medical Officer asks whether, "even if "the wells escape contamination," the soil will retain "its deodorizing and assimilating powers "for an indefinite period?" The reply must be distinctly in the negative. The trench latrine

system, as practised in this case, is simply a process of manuring a definite area of ground, and it should be considered in this light and in no other. If manure of any kind is thrown continuously into ground and left there, the area will become no better than a laystall. Manure is generally applied to ground for the purpose of cropping, and only to the extent required for this purpose, and in such climates as exist in India the only safe way of working trench latrines is to keep this end in view, just as a cultivator would do. As the case stands, the Medical Officer holds that the trench system "does not suit the place, and has proved itself to be dangerous."

The Deputy Surgeon-General reports the lines of the 16th Regiment, Native Infantry, as "insanitary, narrow, and confined; the huts, as usual, deficient in plinths and in capacity;" and the lines of the 25th Native Infantry as "indifferent, damp, and unhealthy in the rains."

(15.) *Mehidpur*.—This most malarious station suffered severely from cholera in 1875. The connection between cholera and malaria has been observed in many places in India. There were in all 26 deaths among Native troops in 1875. Two of these deaths were from heart disease, and all the others from cholera.

Extensive drainages trenches were completed during the year, "so that no doubt the camp will not be as complete a swamp during the next rainy season as it has hitherto been." Excluding the losses from cholera, there was some improvement in health in 1875.

Out of 361 men there were on an average 24 in hospital. The admissions amounted to 858, nearly $2\frac{1}{2}$ times the strength; of the admissions no fewer than 500 were from fever.

It is to be hoped that the drainage operations will diminish this local cause of inefficiency, but Medical Officers appear to doubt whether the disadvantages of local position can be coped with in this way. The 10th Regiment, Native Infantry, is divided between Mehidpur and Augur, a comparatively healthy station.

There are occasional changes in the disposition of the regiment between the two stations, but the troops always carry the Mehidpur fever with them. There were 233 men of the regiment at Augur in 1875, who sent 247 cases of fever to hospital.

(16.) *Nusseerabad, Her Majesty's 23rd Regiment, Native Light Infantry*.—The Medical Officer calls attention to the following point, which has been brought to notice more than once already: "The lines being situated at the lowest end of the camp, drainage is not so perfect as in other parts, but the rain does not collect in the lines. A small temporary tank is formed near the lines in the rainy season; it is certainly desirable that this should no longer be the case." Trench latrines are placed in "close proximity" to this tank, and although it is not a recognized water source, it appears to be used for drinking purposes. It is evident that means should be adopted for abolishing the tank altogether.

(17.) *Kurrachee*.—The principal causes of sickness at this station are "malaria and exposure to cold." If the first cannot be yet dealt with, it may be suggested whether the last cannot be to some extent guarded against by proper clothing during exposure.

It is satisfactory to learn that a wholesome water-supply is about to be provided for this station.

(18.) *Hyderabad*.—Surface sanitary work appears to be well attended to. The principal defect is in the lines, where "the huts are level with the ground, and in consequence are often damp." Possibly the floors admit of being raised with clean earth, which would to some extent remedy this evil.

(19.) *Jacobabad*.—A very sufficient idea of the sanitary history of this station during 1875 may be realized from the fact that the four corps in occupation, with an aggregate strength of 1,530, furnished 1,374 admissions to hospital from malarial fever. The cause of this state of matters has been long known. The station is many feet below the water level of the Indus, and is liable to annual inundations, which not only keep the subsoil water-logged with stagnant water, but the wells are liable to surface and subsoil pollution by organic and mineral matters. As the Deputy Surgeon-General expresses it: "Drainage is at a minimum, owing to the uniform flatness of the ground; refuse water is disposed of by absorption and evaporation."

This in its turn leads to unhealthy changes in the temperatures and moisture of the local climate, and the result is that Jacobabad is one of the most feverish localities anywhere to be met with. The facts and their causes are so well known that it can serve no good purpose to discuss them, for the really important matter is to know what can be done. Can the irrigation be so regulated as to supply just so much and no more water than is needed? Is it possible to free the subsoil of superfluous water by any system of canal drainage, such as exists in very low districts at home? Would any good follow from tree planting all round the station, as is suggested by one Medical Officer?

There is one very likely palliative measure which might have been tried when the lines were constructed, viz., to raise the huts, like those in Burma, six or more feet above the ground level. All that we can do is to repeat what has been often said, that no effort should be left untried to render this station more fit to be occupied than it is at present.

Lastly, the present Report shows progress in the sanitary improvement of Native lines in matters of detail, although there is much still to be done in this direction, but it also shows anew that the great inefficiency cause is local malaria, and that the key to progress must be sought in the execution of local measures of drainage calculated to secure a dry healthy subsoil, and in adopting such principles of hut construction as shall enable the men to sleep above the level of the ground. The question of dieting Native troops, and the bearing of this important point on efficiency, should be taken into account, and the present defects as far as possible remedied.

Some attention might also be given to the peculiarities of Aden as a station, and their effects on health, both of British and Native troops. For some reasons, climatic and other, health is not so well maintained at Aden as it ought to be in a naturally dry non-malarial locality. Scurvy is apt to appear among Native troops, and the stamina generally appears to suffer. Length of service appears to be an important element, also dieting, water-supply, and recreation.

22nd May 1877.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT on LOCK HOSPITALS of the MADRAS PRESIDENCY for 1875.

1. There are 13 military stations in Madras Presidency at which lock hospitals were in operation in 1875. Of these, nine were under military and four were under civil control.

2. The strength of British troops, and the amount of diseases of syphilitic nature among them, stood as follows:—

Strength	-	-	-	-	10,118
Admitted for Venereal Diseases.					
Primary syphilis	-	-	-	-	739
Secondary ditto	-	-	-	-	363
Bubo	-	-	-	-	6
Gonorrhœa	-	-	-	-	780
Balanitis	-	-	-	-	21
Others	-	-	-	-	46
Total	-	-	-	-	1,955
Died	-	-	-	-	1
Invalided	-	-	-	-	27

3. Returns are given for six stations of British troops at which there are no lock hospitals, and these afford the following results:—

Strength	-	-	-	-	589
Admitted for Venereal Diseases.					
Primary syphilis	-	-	-	-	40
Secondary ditto	-	-	-	-	61
Gonorrhœa	-	-	-	-	53
Others	-	-	-	-	5
Total	-	-	-	-	159
Died	-	-	-	-	3
Invalided	-	-	-	-	3

4. The following are the ratios of admissions from the chief forms of venereal diseases at each class of stations:—

		Ratios per 1,000 Strength.			
		Primary Syphilis.	Secondary Syphilis.	Gonorrhœa.	All Cases.
Protected	-	73·03	35·87	77·08	193·22
Unprotected	-	67·91	103·56	89·96	270·00

One third of the primary syphilis and gonorrhœa at unprotected stations was due to a single station, Calicut, at which 98 men were placed during the year.

Among primary infective admission causes primary syphilis was less frequent by 5·01 per 1,000 at unprotected stations, and gonorrhœa was less frequent by 12·88 per 1,000 at protected stations. What has been said in previous Memoranda must, however, be repeated, viz., that the numbers at the two classes of stations are too diverse to be safely used for comparison, and one year's statistics are only good for the year.

5. The next abstract shows the ratio per 1,000 of total venereal admissions at protected stations for the last five years among troops:—

1871	-	-	-	-	178·75
1872	-	-	-	-	164·27
1873	-	-	-	-	149·81
1874 (Tonghoo included)	-	-	-	-	185·73
1875	-	-	-	-	193·22

6. The actual numbers of admissions for primary syphilis among troops and among women at these protected stations during the same five years have been:—

	Total Admissions (Primary Syphilis).	Lock Hospital Admissions (Primary Syphilis).
1871	592	592
1872	682	839
1873	656	962
1874	860	889
1875	739	643

It will be seen that there is no evidence of any real causative relation between the two groups of figures.

Supposing the numbers of troops and of women on the registers to have remained constant, it would almost appear as if the development of syphilis in the two classes of subjects followed two different series. If this were so, it would be in conformity with other observations made all over India, and would apparently lead to this very practical result, that, admitting primary syphilis to be an eminently contagious disease, the amount of it prevalent at any given time among a population depends on other yet unknown conditions besides the fact of contagion.

This view of the case has been put forward both by this Commission and by the Sanitary Commissioner with the Government of India, and is again referred to by Surgeon-General E. S. Balfour in the present Report as a point for further investigation. The result of preventive measures carried out in India for many years may now be taken as having conclusively shown that they are of very partial use in protecting troops from syphilis, and it may be found eventually that this peculiarity in the history of the disease may afford a clue to the causes of failure. With these remarks, which are intended, not to cause discouragement, but rather to indicate points for future inquiry, we shall proceed briefly to give the results, such as they are, of steps taken to improve the service during the year.

7. *Bangalore*.—The admissions among troops at this station were 181 per 1,000, as against 165 per 1,000 for a five years' average. The most important class of admissions, namely, those for primary syphilis, were a little over 66 per 1,000 strength, which was the average for five years.

At this station summonses are issued for women who do not present themselves at the hospital, and attempts are made to obtain information from the men in hospital, but the soldiers invariably have "some excuse" for not giving assistance in this matter. There is the usual amount of clandestine prostitution, and the registration is stated to be inefficient; and yet a sergeant and two special constables are employed on the duty.

The Medical Officer says that the working of the rules has improved, but constant vigilance is required. It is evident that the sources of infection at Bangalore have not been materially diminished by police rules.

8. *Bellary*.—This station has hitherto been one of the most severely infected in Madras Presidency, but in 1875 there was from some cause or other a remarkable diminution of syphilitic disease among troops. The admissions from these affections on a nearly equal strength were as follow:

1873	-	-	-	-	-	319
1874	-	-	-	-	-	386
1875	-	-	-	-	-	263
The admissions in 1875 were made up of—						
Primary syphilis	-	-	-	-	-	119 cases.
Secondary „	-	-	-	-	-	52 „
Total syphilitic						171 „
Gonorrhœa	-	-	-	-	-	92 „
Total						263 „

Nearly two thirds of the admissions were syphilitic.

This reduction appears to have taken place without any corresponding improvement in the preventive service. Complaints are made that this service is considered a subordinate one on the part of the police, that absent women are not apprehended, and clandestine prostitution exists. "The large number of venereal cases which occur among the police is a sure indication that they consort much with this class of women." The reporter proposes a separate preventive agency, and segregation of women who consort with soldiers. But the history of prostitution at Bellary, as given in last year's Report (1874), appears to show that some more extensive measure for reducing the number of prostitutes "devoted" to idols is needed.

9. *Secunderabad*.—If Bellary has shown a considerable reduction in venereal admissions in 1875 without any adequate improvement in the administration of the rules, Secunderabad shows a large increase with apparently greater activity in their enforcement.

The ratios per 1,000 of strength of venereal admissions at this station have been as follows:—

1870	-	-	-	-	-	133.51
1871	-	-	-	-	-	200.26
1872	-	-	-	-	-	191.36
1873	-	-	-	-	-	111.98
1874	-	-	-	-	-	112.24
1875	-	-	-	-	-	224.36

The following were the admission causes in 1875:—

	Admissions.
Primary syphilis	201
Secondary ditto	72
Gonorrhœa	223
Others	16
Total	512

The average strength of troops during the period of occupation was 2,282.

During the preceding year, 1874, the admissions from primary syphilis were 39, and from secondary syphilis 64, numbers which may be compared with those for 1875 as affording an additional illustration of the presumed fact that the amount of syphilitic disease is not solely due to contact.

At Secunderabad registration seems to be conducted with care, but here also unlicensed prostitution must bear part of the blame.

10. At *Kamptee*, with a strength of 1,024 British troops, there were 250 admissions per 1,000 for syphilitic diseases in 1875. At this station there appears to be an unusually active supervision by the police. There is not much disease among the registered prostitutes, but when clandestine prostitutes are laid hold of they are found to be "generally badly diseased." There is reason to fear that the troops conceal cases. There is evidence in this Report to show that to keep down clandestine prostitution would require a degree of zeal and hourly watchfulness which is never likely to be carried out.

11. At *Madras* there are about 1,100 women on the register, of whom 757 were admitted to the lock hospital. The strength of troops, including detachments and details, was 523, and the ratio of admissions for venereal diseases was 254·30 per 1,000 strength.

12. At *St. Thomas' Mount* the Medical Officer states that the rules "are good enough in themselves if carried out in their integrity." But "it is private prostitution that is the great difficulty." The average strength of British troops at this station was 368, and the ratio of syphilitic admissions 165·76 per 1,000 strength.

13. *Cannanore* is another station at which the rules appear to be actively enforced. The examinations are regularly made, and rigorous imprisonment of women is enforced for non-attendance. The average strength of British troops was 519·57, and the ratio of admissions per 1,000 strength equalled 119·32. The Medical Officer is not satisfied with the result, and requests that this institution may be placed "on a better condition, otherwise it will, in the course of time, be unavailing in averting disease."

14. *Trichinopoly* has virtually no acting cantonment sub-committee, and "no special measures for the control of prostitution and the prevention of danger from unlicensed prostitutes exist." Registration and the lock hospital are in operation, and, notwithstanding these complaints, the ratio of admissions among British troops was 164½ per 1,000 out of an average strength of 285½.

15. The experience of several other stations might be cited to show the extreme difficulty of carrying out successfully, or of enforcing, measures of prevention sufficiently stringent to answer the intended object. The cases are not like those of ordinary offences. They often spring out of the habits and religious observances of the people, which cannot be changed by legislation. Even in Madras itself, the seat of a Government, the Health Officer reports that "the rules for the guidance of the Health Officer are so voluminous and vague that there is not a tyro in the legal profession who cannot upset every prosecution made by the Health Department." And, in regard to the so-called protected stations, there is sufficient evidence to show that, with the present type of police officials, no energy likely to be exhibited by them will counterveil evasions practised by both troops and women. So far as past experience enables an opinion to be formed on these "protective" measures in Madras Presidency, it must apparently be that the results have scarcely justified the trouble, outlay, and interference with personal liberty which they have involved, and there is no evidence to show that they have materially lessened the amount of venereal disease among British troops.

18th May 1877.

No. 19.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT of the CHEMICAL ANALYSER to the GOVERNMENT of BOMBAY for 1875-76.

Mr. Lyon's Report shows a large amount of important and useful work done during the year connected with medico-legal cases, examination of Government stores, and water analysis, but it is only under the last section that any questions arise which call for remark by the Commission.

1. During the year, 170 samples of drinking water were analysed, from 27 cities, towns, and stations in Bombay Presidency. The first 45 analyses in the tables refer to an important question connected with the water supplied to shipping in Bombay harbour, discussed in other papers, and arose out of the abominable practice of discharging the cesspool matter of the city by a pipe into the harbour. The practice had given rise to great nuisance, as well as to suspected water pollution by absorption of foul matter in the atmosphere by Vehar water in the process of being transported by barges from the supply pipe to the shipping. This inquiry has been attended by important results, certain of which fully bear out a recommendation for filtering the water supply of Bombay long ago made by the Army Sanitary Commission.

2. To obtain the normal state of the Vehar water, as a ground of comparison with that delivered to the shipping, two samples were taken, one from the lake direct, the other from the waste pipe, after having been filtered through the substance of the dam by accidental leakage. The difference between the two samples is stated by Mr. Lyon as follows:—"The effect of this accidental filtration appears to have been (a) to destroy the dead leaf odour possessed by the water of the lake, and (b) to diminish the albumenoid ammonia, and increase correspondingly the free ammonia. These changes may fairly be interpreted as showing that the effect

“ of the filtration was to destroy by oxidation the greater part of the organic matter contained “ in the lake water.” There is nothing novel in this result. Its importance to the water-supply of Bombay consists in the proof that is afforded by an accident that the large amount of vegetable organic matter dissolved from the collecting area of the lake in an Indian climate, sufficient to confer a peculiar taint on the water, admits of being entirely removed by oxidation in passing through a filter, as long ago advised by this Commission for the removal of this and other defects in quality. The municipal authority, it is to be hoped, may profit by the result, and complete their water-supply by filtering it.

3. The next series of analyses gives the result of exposing the water while being received and conveyed in the water barges from the supply pipe to the ships. It is briefly to increase the proportion of free ammonia 36-fold, no doubt by absorption from the foul atmosphere near the water level. The fact is proved by a test experiment of exposing distilled water to the same air, which resulted in an addition to the water of .04 parts of free ammonia and .06 parts of albumenoid ammonia per million, neither impurity having existed in the water before. The whole series of experiments shows the danger of exposing a surface of drinking water to an atmosphere containing noxious vapours, even in the open air. But the amounts were increased about 10-fold by exposing distilled water to privy air.

4. The final condition of the water in ships' tanks showed that the Vehar water had, as already stated, been polluted more or less by absorption of foul air in the process of carriage from the supply pipe to the ships, that an additional quantity of organic matter had been added, probably from the barge tanks, and that the amount was between 25 and 30 per cent. greater in the ships' tanks than in the barges, showing that the tanks themselves required attention in cleansing.

5. The result has been to place the whole question on a scientific basis, although it must be admitted that common sense and past experience had long ago arrived practically at the same conclusions, namely, that the discharge of night-soil, either above or below the water of Bombay harbour, should be put a stop to, and a proper outlet for the sewage of Bombay provided without delay, and that a little more attention in the way of cleansing should be bestowed on barge and ship water tanks.

6. The remaining analyses, 125 in number, were made in Bombay of samples of water sent long distances, and after long delay in some cases, and although the results are no doubt accurate for chemical purposes, yet, in the absence of all local knowledge as to the immediate surroundings of the water sources, no satisfactory opinion can be formed by the chemist on the sanitary condition of the water. A curious illustration of the benefits of local inspection is given in the case of the water-supply of Asseergurh, which, although submitted to filtration, showed very large amounts of organic impurity when analysed at Bombay. In this case an inspection was considered necessary in order to explain the occurrence, and when the step was taken, the explanation was “ apparently an exceedingly simple one.” It is thus given by Mr. Lyon. The tank is filled from a catchment area within the fort, capable of yielding a year's supply, and “ this “ tank had never, within the memory of man, been cleaned out.” In a sanitary sense, this means that for unknown years the catchment area had been washed by the rains, and the washings, with all their surface impurities, formed the bed of the tank. No wonder that any available means of filtration should have failed to oxidize the organic matter, and there is no doubt that this case shows what is the condition, and its causes, of most Indian tank waters.

7. In other cases there is reason to believe that the analysis conducted in the manner described, and by itself, gave a very inadequate representation of the sanitary condition of the water source, and so far might tend to an erroneous estimate of the agency of the water in the production of disease. There are cases in which Medical Officers on the spot had every reason to suspect that the water was dangerous, while, after being sent to Bombay, nothing of the kind could be detected.

8. Mr. Lyon very properly says that “ it is anything but satisfactory to go on year after year “ analysing sample after sample, knowing perfectly well that the major portion of the analyses “ are for all practical purposes perfectly useless.” The remedy he proposes is to place all questions connected with the quality of waters in the hands of the Sanitary Commissioner, as part of his current duty, in which he would be aided by competent analysts, who would, on the spot, examine the water source and its surroundings, would then analyse the water, and trace any suspicious impurities to the local cause, and there and then point out the remedy. The necessity for this local analysis has been for a number of years urged by the Commission in their Memoranda on the Bombay stations.

9. For immediate guidance in dealing with the more important organic impurities, no better course could be taken than to follow the simple procedure laid down by Dr. Angus Smith in his tract “ on the estimation of organic matter in water,” long since printed and sent to India at the request of the Army Sanitary Commission. But more extended analyses should be carried out on the plan prepared by Dr. Macnamara, Dr. Angus Smith, and the late Dr. Parkes, printed in the India Office Blue Book which was issued in 1871.

10. As the Sanitary Commissioner of Bombay has been relieved of statistical work, and as the vaccination service has been required to undertake sanitary as well as vaccination duties, placing the examination and protection of water sources under the sanitary Commissioner would be nothing more than another very important step taken in the same direction, and with this and other sanitary duties the Commissioner's time would be usefully filled up, and his whole attention directed to sanitary work, which is an indispensable condition to its success.

31st May 1877.

No. 20.

MEMORANDUM of the ARMY SANITARY COMMISSION on the REPORT on SANITARY MEASURES in INDIA in 1874-75, together with Miscellaneous Information up to June 1876. (Vol. VIII. Presented to Parliament by command of Her Majesty.)

The present volume of the India Office Sanitary Reports contains an excellent and instructive digest of numerous reports received from India bearing on the public health of the civil population, and also on the health and improvement of military stations throughout the country. This is followed by the Memoranda of the Army Sanitary Commission on practical questions raised in the documents, showing the improvements required in each case, and the principles to be kept in view in dealing with them. The volume as a whole gives a sufficiently distinct account of the public health for the year, and of the steps taken towards removing disease causes. The facts are of a hopeful character, especially as regards Her Majesty's British troops, which, so far as can be gathered from the records, were never so healthy in any previous year.

In former Memoranda the Commission took occasion to point out that Indian reports contained too little detail regarding sanitary works, and consequently that in this matter the India Office annual digests were somewhat deficient in information. This defect has been to some extent remedied in the Report under review, and we are glad to observe that much fuller and in some senses very important details of works have been included in the more recent Indian reports, which will give a fresh interest to future India Office digests. The only way, however, to enable these reports to convey a satisfactory impression regarding sanitary progress is to make such provision for statistical work as shall liberate the Sanitary Commissioners entirely from details of this nature, and enable them to devote their whole time to the absolutely essential duties of inspecting and advising with local authorities in cities, towns, and districts within their sphere of work.

With the same view the civil surgeons and vaccination staff might be called on to render aid all over India. This improvement in sanitary organization has been carried out, we believe, in the Bombay Presidency and in the Central Provinces, and a great advance in sanitary work may confidently be looked for. The Commissioners will have a sufficient staff at work, and, by devoting their whole time to it, they will soon be able to furnish to the India Office the necessary details on sanitary improvement within their districts.

The India Office Report contains a defence of the Army Sanitary Commission against attacks made on it some time ago on the presumed ground that in doing Indian sanitary work it neglected certain etiological doctrines prevalent in this country regarding peculiarly Indian diseases. The Commission avoided any notice of these criticisms at the time, and it was evident that they were based on defective knowledge of the constitution and functions of the Commission. These have been explained in the present India Office Report, and the necessity for further discussion of the subject has thus been obviated, except to state that, as a public body entrusted with important functions, the Army Sanitary Commission has welcomed any really practical information which has come before it, and has at the same time endeavoured to turn it to account in the course of its work.

21st May 1877.

No. 21.

MEMORANDUM of the ARMY SANITARY COMMISSION on the MEDICAL HISTORY of the LAROOT FIELD FORCE (PERAK).

These papers contain a full and interesting account of the medical events which took place during the expedition to Perak between the 20th November 1875 and the 27th March 1876. Most of the detail is so purely departmental in character as to call for no remark from the Commission. The most interesting sanitary points are those connected with the country within which these military operations were carried out, and it is proposed to restrict the following remarks to them.

1. That portion of the Malay Peninsula within which Perak is situated is in latitude 4° N., and in longitude 101° E. The country is therefore strictly a tropical one, close to the sea on the west, and separated from the sea on the east by a mountainous country about 160 miles broad. Part of the military operations took place in a hilly district, but for all practical purposes as regards health the chief seat of the operations was in low, damp, jungly country close to river banks. The work on shore was commenced on 1st December, and during this month rain fell on 13 days. But the climatic records could only be kept for January, February, and up to 13th March 1876. They are given as follows:—

Temperatures.

	Highest.	Lowest.	Greatest Range.	Mean of Highest.	Mean of Lowest.	Mean Daily Range.	Monthly Mean.	Rainy Days.
January	90	72	16	86.77	75.22	11.25	82	16
February	95	70	21	91	73	17	81.2	14
March 1-13	93	71	19	87.30	73.88	13.72	79.43	8

The climate is described as "moist and relaxing; daily range of temperature very uncertain, "owing to cloudiness and the frequent occurrence of rain; wind as a rule gentle, and commencing in north in the morning goes round the compass in 24 hours; breeze always cool."

It may be added that the temperature ranges in the preceding abstract show that there must have been very considerable variations between the day and night temperature on particular days. The sensible qualities of the climate were that towards noon, when the breeze lulled, the heat became oppressive, and the temperature continued high till late at night. When compared with Lower Bengal the climate was decidedly moist, and fogs were very frequent.

The rain fell in drenching showers on the hills. There were frequent thunder storms.

The chief diseases of the country among Natives and residents are malarial fevers.

2. In a country possessing these characteristics, the head-quarters of the Laroot field force were established at Qualla Kangsa, on a kind of peninsula between the Kangsa and Perak rivers.

The subsoil was gravel resting on clay. Huts for the troops were formed of a framework of wood with thatched roofs, and sometimes thatched sides and gables.

The huts answered "fairly well," but they were hot through the day, and damp and chilly at night, due to fogs and the river.

The troops were clothed in cotton drill, but without flannel shirts. When the cotton clothing was put on in the morning it "felt damp and uncomfortable." The sanitary precautions connected with water-supply, latrines, surface drainage, cleanliness, and hospital arrangements appear to have been suitable under the circumstances, and a few instructions regarding the personal hygiene of the men were drawn up by the Medical Officers, and approved by the General in command.

3. The next point to examine is the result of the whole arrangements on the health of the troops.

So far as can be learned from the statistics, the operations of the force were included between the 4th December 1875 and 10th March 1876, a period of 98 days. The force employed consisted of—

33 men, 3rd Battery, 5th Brigade, Royal Artillery.
599 ditto, Buffs.
44 ditto, Naval Brigade.
119 ditto, Madras Sappers.
460 ditto, 1st Goorkha Light Infantry.

Total - 1,255

Out of this force the casualties were as follow :—

	Deaths
Killed in action	1
Died of wounds	5
	6
	Admissions.
Fevers	117
Dysentery and diarrhoea	167
Others	136
Wounds	8
	428
	20

It will be seen that the old experience in field service reproduced itself in the present case.

The admissions from diseases were $52\frac{1}{2}$ times the admissions from wounds, and the deaths from wounds were to the deaths from disease as 3 to 7. Excluding wounds, and reducing the results to an annual ratio, the admission-rate for diseases was 1,246 per 1,000 strength, and the death-rate was equivalent to an annual ratio of $42\frac{1}{2}$ per 1,000.

The casualties among Officers were as follow :—

Strength	50
	Admitted.
Sunstroke	1
Fevers	1
Dysentery and diarrhoea	9
Others	4
Wounds	1
Killed in action	1
	16
	3

The Sanitary Commissioner with the Government of India has called attention to the fact that the proper strength of the Buffs engaged at Perak was not 599, but 401, the remainder having been stationed at Malacca, and that out of 401 men the admissions were 93 and the deaths 13.

The results of the expedition followed the force to India after its conclusion, and led to the following numbers being invalided home:—

		Diarrhoea and Dysentery.	Fevers.	Others.	Total.
Officers	- -	2	—	—	2
Men	- - -	12	2	3	17
Total	- -	14	2 1/2	3	19

The 1st Goorkha Regiment, after having had 192 admissions and 5 deaths in Perak, sent the following cases into hospital after its return to India:—

Fevers	- - -	35
Dysentery and hepatitis	- - -	11
Others	- - -	54
		100

Twenty-four of these fever cases and four of dysentery took place in men who suffered from them before at Perak.

4. Considering that this force was sent into the field during the least unhealthy time of the year, it becomes a matter of importance to learn why it suffered so much from sickness in so short a time.

The facts already stated show that the most important cause of death and inefficiency was dysentery and diarrhoea, which gave rise to 40 per cent. of the disease admissions and 71 per cent. of the deaths from disease. The fever admissions were not so great proportionately for a tropical climate, so that the reply to the question must be sought in determining the cause of prevalence of these bowel diseases.

5. There are some important facts on this subject in the medical reports which require notice. Here, for instance, is one. An Officer exposed himself naked in a canoe on the river during a cool north breeze, and had a severe chill. He was seized with severe pains and spasms, with vomiting, and died a week after. Although the symptoms in this case were enteric, the history shows that fatal chill may readily occur in a hot moist climate from change of wind.

6. The following is an important statement of the Medical Officer in regard to the causes of dysentery. After describing the great severity of the cases, he says, "A very moist atmosphere, temperature high, and heat rather oppressive during the day, occasional puffs of a cool north breeze, a close evening followed towards early morning by a sudden fall in the temperature, and the advent of a cold northerly breeze; the proximity of a large river, and the occurrence of morning fogs; exposure to the sun, with the body perspiring profusely under exertion; a thirst that frequent and copious draughts of water only would allay; slime in the water of itself caused a tendency to diarrhoea; indigestible food; these various agents acted on the system in such a manner that a chill was all that was required to excite morbid action, and as large quantities of cold water was swallowed daily, the bowels suffered."

With regard to the effect of impure water, the Medical Officer of the Goorkhas states that these men did not drink the river water, but dug wells for their own use, which yielded good water. They, nevertheless, had 58 cases and 2 deaths from dysentery and diarrhoea. But, on the other hand, there is no information as to the chemical or microscopic characters of either water, and the facts, such as they are, lead to grave suspicions as to the purity of the river water at least, which we are told deposited a perfectly colourless and transparent gelatinous slime which rapidly choked the filters. Subsequently, all the drinking water was boiled, with decided improvement in its quality.

7. A fact of importance is stated regarding the duties. Besides those incident to the march, it was necessary to make clearings, and the men were engaged in this work from 6 a.m. to 5 p.m., with an hour's interval for breakfast and another for dinner. The result was that both Officers and men suffered. A subdivision in the hours was next tried without benefit. Towards the close of January the working hours were from 6 to 8 a.m. and from 4 to 6 p.m., leaving out the hot part of the day. When this arrangement was made, "the improvement in the health was marked, and after the middle of February, when fatigue duties were only performed in the morning, the admissions to hospital were very few, and bowel complaints almost entirely disappeared."

8. There appears to have been nothing amiss about the rations except in the tea, which was of "indifferent quality;" and as regards coffee, which, when properly made, is one of the most effective preservatives against fatigue and its results, it is not very satisfactory to be told that "it was issued raw, and as proper means of roasting were not available it was not much used;" to the extent, however, to which it was used under such an arrangement, "the men had an impression that it caused diarrhoea," which very possibly it did. There appears to be no reason why on expeditions coffee should not be issued roasted, together with a simple mill or crusher to grind it. When well made, coffee is a well known preservative of health on such occasions, but if ill made it may be positively injurious.

9. An attempt was made to discover the relative advantages to health of abstinence, temperance, and intemperance, but from statistics of disease given in the Report, the Medical Officer, while admitting that the numbers were too few for the comparison, expresses his opinion "that on the whole the temperate man has the best of it."

10. Lime juice was issued twice a week to Europeans, and likewise quinine. There appears to have been no scorbutic taint, but the quinine was not specially useful.

Dysentery was of a severe and obstinate character, and was not benefited by large doses of ipecacuanha.

11. Taking all the facts as they stand, the question suggests itself as to what lessons for future guidance can be deduced from the experience. Great care had evidently been bestowed on the sanitary arrangements of the force, and yet the results were not all that could have been desired.

It is so easy to be wise after the event, and to make suggestions which possibly could not have been carried into effect, that, while fully realizing the topographical and climatic peculiarities of the locality, perhaps the best way will be to put our suggestions in the form of the following questions.

12. Is a camp site on a low river bank, especially if between two rivers, the best site to select in a tropical climate?

Perhaps the following passage from the Report of the Commission on the causes of reduced mortality in the French Army serving in Algeria may supply an answer:—"On one occasion the Officer commanding a column placed his camp on marshy ground close to a river for the facility of obtaining water. Another column, commanded by an Officer of more experience, encamped on high ground, at some distance from the river, the Officer sending his men to the river to fetch water, at which they grumbled very much; but the result was that the latter column remained perfectly healthy, while the column which had encamped near the river was encumbered with a large proportion of sick, to the serious diminution, of course, of its fighting men."

13. Considering the low damp foggy locality, the nature of the temporary shelter, and the great difference between day and night temperature, would not the lighting of fires at night have been an advantage?

14. Might not some useful hints regarding the issue of coffee be obtained from the following practice in the Algerian Army, given in the Report referred to?—"All Officers, medical and others, gave a prominent place to the use of coffee (*café* soup) among the causes of improved health of the troops. Each man on march carries a small bag of roasted coffee, and there is a grinder or mill for every eight men carried by one of the squad in his knapsack. Before starting in the morning the soldiers grind and boil their coffee, putting into it sugar and bread, and eating it like soup (hence its name). It acts not only by affording an early nourishing meal excellent for marching with, but the stimulating effect of the coffee enables the men to resist fatigue, and to undergo much more exertion than they would otherwise be capable of doing."

15. As regards clothing during expeditions in these malarious countries, why should not the Algerian practice be followed, especially as it has a very direct bearing on the question of fever and dysentery? It is as follows:—"The chief improvement, so far as health is concerned, all are agreed, has been the introduction of a broad flannel belt covering the chest and abdomen. It is in one piece, fastened down the front, and suspended by braces. The use of it is obligatory in Algeria, and the men are inspected to ascertain that the regulation is obeyed. Before the introduction of flannel, the men used to suffer much from alterations of temperature, and from chills consequent on this, often ending in dysentery and other abdominal diseases, . . . and their introduction has, it is stated, led to marked diminution of dysentery and bowel affections." The Medical Officer of the Buffs distinctly states, from the experience of Perak, that "for jungle work woollen clothing would be better adapted." In fact, the importance of woollen clothing cannot be over-estimated. It is more essential in hot damp climates than in cold climates. Its object is not merely to prevent chill, but to equalize the temperature. A flannel shirt next the skin, and a so-called cholera-belt, should always be worn by European soldiers in tropical climates, especially when exposed on service to cholera, dysentery, and malarial poisoning.

It is to be regretted that this precaution was not taken in the present case, especially as a recommendation "that flannel be introduced as underclothing" was made by the Royal Commission on the Sanitary State of the Indian Army so long ago as in 1863.

16. As regards fatigue duties during expeditions, they must depend on the necessities of the service, but we concur in the opinion of the same Medical Officer that "the lesson taught was that in a similar climate fatigue duties during the heat of the day should be avoided when practicable."

17. While stating briefly what lessons may be deduced from the experience, the fact may be recalled that the Algerian Report of 1867 was laid before Parliament, and circulated by the Secretary of State, for the purpose of making known the reasons why the death-rate there had fallen from 80 per 1,000 to 13 or 14 per 1,000 among troops; and it may not be out of place to direct attention again to the experience it contains.

30th May 1877.

No. 22.

MEMORANDUM of the ARMY SANITARY COMMISSION on CORRESPONDENCE relative to SICKNESS and MORTALITY in BATTERIES of the 11th Brigade Royal Artillery. (Extract of Military Letter from Government of India, No. 199, dated 24th July 1876).

The excessive sick and death rates of this Artillery Brigade, and their effect in raising considerably the rates of the stations where the batteries were quartered, were noticed by the Army Sanitary Commission in their Memorandum on Dr. Cunningham's Report for 1874, published in the 8th volume of the India Office Sanitary Reports.

The present correspondence contains an exhaustive analysis of the facts, as well as of the remedies for preventing similar occurrences in future. But as the experience afforded by the case is too important to be allowed to pass from memory, it appears to be desirable to devote the present Memorandum to a brief record of its leading features.

1. The average annual strength of the 11th Brigade, Royal Artillery, in India, was 892. Its head-quarters, together with Batteries A, B, C, F, G, numbering 642 men, were landed in India from England on 20th February 1874. The D and E Batteries, containing 250 men, arrived there on March 11th. The head-quarters and A and B Batteries (263 men) arrived on March 2nd at their station, Barrackpore. C Battery, 129 strong, arrived at Dinapore on the preceding day, March 1st. On March 13th, F Battery, 121 strong, arrived at Saugor. On the 18th, E Battery, 124 strong, arrived at Allahabad. On the 19th, D Battery, numbering 126 men, reached Benares; and G Battery, 129 strong, arrived at Nowgong on March 23rd.

2. By the time these various batteries had reached their destinations and settled themselves in quarters, the hot weather was upon them. They left England in the depth of winter, and after a month's voyage they were in an Indian summer. This is one fact which applied equally to all the batteries.

Another was that under these conditions of climate the men had to follow their usual drill and occupations.

3. As regards the stations. Batteries A and B at Barrackpore had to use water which the Medical Officer describes as "obtained from tanks which are filled during the rains with the washings of the roads, parade grounds, surface drains, &c., and, of course, highly contaminated with organic matter. . . . In August it contained 50 times more ammonia of organic matter than a fairly usable water should contain."

4. At Dinapore the rains were excessive, and no corresponding drainage provisions appear to have been in existence, for the Medical Officer states that the station had been "completely under water and impassible in September," and the men had sour beer to drink.

5. A similar complaint about sour beer and porter is made by the Medical Officer at Benares, and "there are," he says, "some defects in the drainage about the stables; and a portion of the parade was under water a great part of the last rainy season, owing to deficiency in drainage." The barracks were also overcrowded.

6. Nothing is stated to have been amiss at Allahabad. And at Saugor it is stated that "an exhaustive examination of barracks and vicinity failed to detect any insanitary condition." No complaints are made about Nowgong.

7. Once arrived at the stations, it was found that a certain proportion of the men were far from possessing sufficient stamina for Indian service.

At Saugor, for instance, 99 men out of 152 were under 25 years of age.

At Nowgong nearly 55 per cent. of the battery was composed of immature men, and only about a fourth part of the men were in full vigour.

The Medical Officer at Benares states that there were men there "who should never have been embarked, who must have been sent out with organic and constitutional diseases existing."

These are the chief facts regarding the conditions to which this corps was exposed, and we shall next abstract the results to health and efficiency.

8. During the ten months succeeding the arrival of the brigade in India, out of 892 men average strength, there were 2,451 admissions to hospital and 41 deaths, besides 35 invalids. The total loss in ten months was thus 76 men. The causes of admission to hospital are not given in the papers, but the following is an abstract of the causes of death:—

Diseases.	Deaths.
Enteric fever	14
Sunstroke	7
Dysentery, half with abscess of liver	8
Abscess of liver	3
Remittent fever	3
Ague	1
Others	5
Total	41

The causes of invaliding were:—

Diseases.	Invalids.
Dysentery	10
Phthisis pulm.	5
Liver disease	5
Secondary syphilis	2
Heart disease	2
Others, including epilepsy, dementia, deafness, varicose veins, palpitation	11
Total	35

9. It is an important fact that, with the exception of Benares, every station occupied by the brigade had deaths from enteric fever. The numbers of enteric fever deaths were as follows:—Saugor, 4; Dinapore, 3; Barrackpore, 4; Nowgong, 2; Allahabad, 1. Bad water and malaria

are alleged as exciting causes of enteric fever at Barrackpore. The Medical Officer states that at Saugor enteric fever "made its appearance simultaneously with the maximum development of intermittent fever, and in all of the fatal cases enormous enlargement and disease of the spleen were observed. . . . The writer is convinced that enteric fever, at this station at least, should be regarded as the extreme effect of that series of causes to which the term malaria is applied."

At Saugor there were 12 attacks and 7 deaths among men and women, and all the fatal cases took place between 20 and 25 years of age.

At Nowgong one man was found affected with enteric fever on arrival, and all the cases took place shortly after arrival.

10. The Medical Officer at this station states that the influence of climate was "suddenly developed, . . . almost every disease incidental to debilitated constitutions having appeared in a more or less severe form, the chief being heat fever, erysipelas, ulcerated gums, diarrhœa, gastric irritation, and continued fever, and one case of modified small-pox."

The lowest daily sick-rate was about 9 per cent. at Nowgong, and the highest nearly 13½ per cent. at Barrackpore.

11. The main question before the Commission includes the reasons of these very remarkable facts.

Both sick and death rates of the Artillery Brigade much exceeded those of other corps at the same stations, who were exposed to precisely the same local conditions. What was the cause of this difference? The answer must be that the one condition which acted specially on the 11th Brigade, Royal Artillery, and influenced its various batteries widely separated by distance from each other, was arrival in India in the hot season, to which it must be added, that the casualties incidental to the introduction of immature youths suddenly to Indian service became more marked from this circumstance than they usually are in corps arriving in the cool weather. The experience, it must be hoped, is singular, but it is very important as showing the main results of these causes acting simultaneously.

12. There cannot be a doubt that drainage and other defects at stations must bear a certain amount of blame, and hence that these defects ought to be remedied without loss of time.

Nothing can be urged in extenuation of leaving the drainage of stations in such a condition that they are flooded in the rains. Water for Barrackpore is now obtained from the Calcutta Waterworks, but it may be suggested whether the water at other stations ought not to be examined.

It may be further urged, although it is more purely a departmental matter, that the causes of invaliding referred to above clearly show that men were included in the brigade who ought never to have left England, a fact which must also bear part of the blame.

13. In conclusion, the Army Sanitary Commission expresses its concurrence as to the influence of the following special causes of sickness and mortality in the 11th Brigade, Royal Artillery, stated by the Sanitary Commissioner with the Government of India:—

1st. That they were new to the country, and on that account suffered as all regiments new to India suffer.

2nd. That they reached their destinations late in the year.

3rd. That they contained a large proportion of young men.

And, as a means of preventing future losses from similar occurrences, the Commission concurs in the following suggestions of His Excellency the Commander-in-Chief, also agreed to by Dr. Cuningham:—

1. That batteries leaving England should arrive in India in sufficient time to admit of their reaching their destinations before the hot weather sets in.

2. That very young soldiers should not be sent out to India.

3. That Commanding Officers should be cautioned not to overwork their men during their first year in India.

14. It may be useful to add the recommendation on these points made by the Royal Commission on the Sanitary State of the Indian Army in 1863:—That no recruit be sent to India under 21 years of age, nor until he has completed his drill at home, and that recruits be sent direct from home to India so as to land there early in November.

This recommendation, made 13 years ago, was specially intended to prevent dangers and losses such as those which befel the 11th Brigade, Royal Artillery, three years ago.

It is very satisfactory to learn from the papers that the Government of India has concurred in the views of the Commander-in-Chief, and that arrangements have been made by the Home authorities "by which it is hoped that brigades of Horse and Field Artillery will in future be despatched early in the trooping season."

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